The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1766.—Vol. XXXIX. LONDON, SATURDAY, JUNE 26, 1869. (WITH SUPPLEMENT) {STAMPED ....SIXPENCE, UNSTAMPED--FIVEPENCE

MR. JAMES CROFTS, STOCK AND SHAREBROKER,
No. 1, FINCH LANE, CORNHILL.
(Established 1842.)

Mr. CROFTS transacts business in the way of PURCHASE or SALE of every description of stocks, but particularly BRITISH MINES, at net prices. All orders meet with the utmost punctuality, and advice given as to the nature and eligibility of INVESTMENTS when required.

GREAT ROYALTON.—Great North Lode: The agent writes—"At the east shaft on this lode we have an intersection with what is called King's lode, and we have holed to some old workings, and find some splendid rich stones of tin left by the ancients." This is the deepest point the old workers could go. The lodes here are 4 fms. wide, and will yield, the agent adds, "immense quantities of tinstuff for the stamps."

MR. W. H. BUMPUS, STOCK AND SHAREDEALER,
44, THREADNEEDLE STREET, LONDON, E.C., has FOR SALE the following SHARES, free of commission:—

75 Anglo-Argent., 21s 3d	50 Gen. Brazilian, 13s 6d	50 Rossa Grande, 25s.
50 Anglo-Brazil., 9s. 6d.	200 Gwydyr Park, 1s.	55 Royalton, 17s. 9d.
15 Chiverton, £3⅜.	20 Great No. Laxey, 21s 3	45 Snaefell, 18s.
30 Chontales, 28s.	10 Great Vor, £15¼.	30 So. Condurrow, 20s.
50 Caldbeck Fells, 16s 6d	20 Holmbush and Kelly	30 South Darren, 36s. 6d
25 Don Pedro, £4 13s. 9d.	Bray, £4 1s. 3d.	75 Taquaril, 11s.
10 East Caradon, £7⅞.	10 Marke Valley, £8½.	5 Van, £38.
15 East Rosewarne, 4s 6	25 New Lovell, 34s. 6d.	20 West Basset, 24s.
20 East Grenville, £4 6 3	20 North Crofty, 18s.	5 Wt. Chiverton, £46⅝.
10 East Lovell, £10⅝.	10 North Levant, £7⅜.	50 West Wh. Kitty, 4s 3d
10 Frank Mills, £3 18s 9d	50 No. Treskerby, 13s. 6d	5 Wh. Trelawny, £7¼.
70 Frontino, 25s. 3d.	30 Prince of Wales, 24s6d	25 Wh. Uny, £3¾.
5 Great Laxey, £18½ (ex div.)	5 Pedn-an-drea, £4.	20 Wh. Grenville, 52s 6d
	30 Pestarena, £1½.	25 West Maria and Fortescue, 15s. 3d.

MR. WILLIAM WARD,
95, BISHOPSGATE STREET WITHIN, LONDON, E.C.

HOLMBUSH AND KELLY BRAY UNITED MINES (Limited).—These mines continue to look very well, and I strongly recommend an immediate purchase at present prices—viz., from 4 to 4¼. The lead lode lately discovered is reported to be yielding 40 ozs. of silver to the ton.

W. W. calls attention to the great improvement in the PRINCESS OF WALES MINE. The shaft is down 32 fms., and is in a beautiful channel of ground, thickly spotted with copper ore.

MR. THOMAS SPARGO, STOCK AND SHAREDEALER,
224 AND 225, GRESHAM HOUSE,
OLD BROAD STREET, LONDON, E.C.

JOHN RISLEY, (SWORN) STOCK AND SHAREBROKER, 48, THREADNEEDLE STREET, LONDON, E.C.
Bankers: London and Westminster, Lothbury.

MR. Y. CHRISTIAN, STOCK AND SHAREDEALER,
11, ROYAL EXCHANGE, E.C,
Bankers: Bank of England.

MR. G. D. SANDY, STOCK AND SHAREDEALER,
48, THREADNEEDLE STREET, LONDON, E.C.
Daily Price List on application post free. References exchanged.

Established Twelve Years.—Twenty-four Years' Experience.

MR. F. W. MANSELL, STOCK AND SHAREDEALER,
1, PINNER'S COURT, OLD BROAD STREET, LONDON, E.C., has the following SHARES FOR SALE, for cash or account, at net prices:—

15 Chiverton, £3½.	20 Great Wh. Vor, £15½	50 Prince of Wales, 25s.
10 Chiverton Moor, £3½	5 Great Laxey, £19.	35 Royalton, 20s.
150 Chontales, 30s.	100 Gt. So. Tolgus, 20s.	100 Redmoor, 3s. 6d.
5 Cook's Kitchen, £13¼	50 Gen. Braz., 3s. 6d. pm.	75 Sth. Condurrow, 32s.
50 Don Pedro, £3⅞ pm.	5 Herodsfoot, £45½.	1 South Caradon, £375
1 Devon Consols, £147½	50 Hingston Down, 10s.	10 Wt. Chiverton, £46¾.
15 East Caradon, £7⅞.	35 New Lovell, 35s.	1 West Seton, £175.
150 Frontino, 25s. 6d.	75 North Treskerby.	

PERRAN WHEAL VYVYAN.—Prospectus and reports of this valuable property may be had on application to Mr. F. W. MANSELL, who strongly advises the immediate purchase of the shares.
Bankers: London Joint-Stock Bank.

MESSRS. J. HUME AND CO., STOCK AND SHAREDEALERS, 74, OLD BROAD STREET, LONDON
(fronting the Stock Exchange),

Publishers of "THE INVESTMENT RECORD AND MINING REVIEW," which contains particulars of Van Lead Mine, Van Consols, Great Rock, &c.

A list of Dividend Mines, paying 10 to 30 per cent. on the price of shares.

GREAT ROCK.—An important additional discovery has been made in this mine. Particulars on application. Shares are still advancing.

VAN CONSOLS.—For particulars, prospects, and price of shares, apply to H. and Co.

SPECIAL BUSINESS in Don Pedro, Chontales, Taquaril, Anglo-Brazilian, Rossa Grande, Prince of Wales, &c.

Business transacted in all shares at net prices, including a small commission.
Bankers: The London Joint-Stock Bank.

MR. J. H. COCK, STOCK AND MINING SHAREDEALER,
74, OLD BROAD STREET, LONDON, E.C.
Fifteen years' experience in Cornwall and London.

Business transacted in all the leading mines, and those difficult of purchase or sale negociated.

SPECIAL in Van Consols, New Lovell, North Treskerby, Ding Dong, Providence, South Merilyn, and South Condurrow.

MR. T. ROSEWARNE, 81, OLD BROAD STREET,
LONDON, E.C.

T. R. has BUSINESS in the following mines, at close market prices:—

Bedford Consols.	East Grenville.	Prince of Wales.
Bedford United.	East Caradon.	West Drake Walls.
Devon Consols.	Frontino and Bolivia.	West Chiverton.
Don Pedro.	New Lovell.	

T. R. has spent the past week at Llanidloes and Aberystwith, where he has made many important inspections, and should he be able to get through all he purposes doing while in Wales, will return to town next week, when he will be in a position to lay before his clients the prospects of the various properties he has gone over. Parties having money for investment or speculation will do well to take advantage of the thorough] practical advice T. R. is in a position to tender.

PRINCE OF WALES.—Parties desirous of knowing what to do at present prices should call at my office, and see my agents' reports.

BEDFORD CONSOLS and CHIVERTON MOOR should be bought at present low prices.

CHONTALES.—I am a seller for time on below the present market prices.
Money advanced to any extent on good mining shares.
Office hours Ten to Four. Bankers: Bank of England.

MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S,
BISHOPSGATE STREET, LONDON, E.C. (Established 15 years), has FOR SALE the FOLLOWING SHARES, at net prices:—

25 Caldbeck Fells, 16s 3d	50 Frontino, 25s. 3d.	25 West Basset, 17s. 9d.
4 Carn Brea, £13½.	10 Great Laxey, £19½.	1 Wt. Chiverton, £46⅜.
25 Chontales, 29s.	10 Great Vor, £14⅞.	5 West Caradon, £4¼.
10 Chiverton, £3 8s. 9d.	40 Gt. So. Tolgus, 12s 6d	25 Wheal Agar, 21s. 9d.
5 Cook's Kitch., £13¼.	5 Marke Valley, £8 6s 3	4 Wheal Buller, £14½.
1 Devon Cons., £157½.	25 North Downs, 12s. 6d.	30 Wheal Crebor, 11s. 3d
1 Ding Dong, £24¼.	30 No. Treskerby, 12s. 9d	20 Wh. Grenville, 52s. 6d
25 Don Pedro, £3 18s. 9d prem.	35 Prince of Wales, 24s 6d	10 Wheal Kitty (St. Agnes), £5⅛.
40 Drake Walls, 16s. 3d.	1 Providence, £36½.	5 Wh. Mary Ann, £14¼
10 East Caradon, £7¾.	25 So. Condurrow, 25s.	10 Wheal Uny, £3 16s 3d
20 E. Grenville, £4 3s 9d	20 So. Herodsfoot, 18s.	20 Yudanamu., £1 11s 3d
10 East Lovell, £10¼.	25 South Merilyn, 19s 6d	
	5 Tincroft, £16¾.	

SOUTH MERLLYN.—Shares in this mine, offering more than favourable chances to investors, are selling at very low prices. I have before directed attention to the property.

MR. GEORGE BUDGE, STOCK AND SHAREDEALER,
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 20 years), is a SELLER at net prices of:—

50 Van Consols; 50 Tamar Valley, 8s.; 10 North Levant, £7½; 30 East Rosewarne, 3s.; 20 Nangiles; 20 Van, £38; 35 Wheal Grenville, 52s. 6d.; 2 New Wheal Seton, £65; 5 Wheal Chiverton, 3½; 100 Gawton; 20 East Wheal Grenville, £4½; 25 South Merilyn; 105 Great South Chiverton; 100 North Jane; 50 Great Caradon; 100 Wheal Ida, 7s. 3d.; 150 Taquaril; 150 Anglo-Brazilian, 8s. 6d.; 90 Holmbush and Kelley Bray, £4½; 300 General Brazilian, 14s.; 200 Taquaril, 4s. 6d. prem.; 2 Minera, £175; 20 Macs-y-safn.

SPECIAL BUSINESS in Van Consols and Great Rock.

CORNISH AND FOREIGN MINES—TO SHAREHOLDERS AND OTHERS.

PETER WATSON'S "WEEKLY MINING CIRCULAR AND SHARE LIST—SYNOPSIS OF CORNISH AND DEVON MINES," of Friday, June 26, No. 538, Vol. XI., price 6d. each copy, forwarded on application, contains information on the following mines:—

Great Rock.	Spearne Moor.	Wheal Margaret.
West Caradon.	North Crofty.	New Lovell.
St. Ives Consols.	East Lovell.	Great Western.
		Great Wheal Vor.

INVESTMENT OR SPECULATION.—A SELECTED LIST OF RAILWAYS, BANKS, MINES, COLONIAL SECURITIES, FOREIGN GOVERNMENT BONDS, &c., forwarded to *bona fide* investors on application, in addition to the high rate of interest many of the above are paying, there is now every probability of a great rise in market value.

PETER WATSON, STOCK AND SHAREDEALER,
79, OLD BROAD STREET, LONDON
(three doors only from Hercules-passage, entrance to the Stock Exchange).
Twenty-four years' experience.
(Two in Cornwall and Twenty-two in London.)
Bankers: The Alliance Bank, and the Union Bank of London.
References given and required (when necessary) in all the principal towns of the United Kingdom.

THE LONDON DAILY RECORD—STOCK AND SHARE LIST—STOCK EXCHANGE SECURITIES. Published every evening at 5 o'clock. It contains the latest prices of railways, banks, mines, foreign stocks and bonds, financial, insurance, and miscellaneous shares, remarks on the daily rise and fall in prices, with advice as to purchase and sales. Annual subscription, £1 1s.; by post, £2 5s.; monthly subscription—by post, 4s.; single copy, 1d.; by post, 2d.
PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London.

MR. EDWARD COOKE,
STOCK AND MINING SHAREDEALER, 76, OLD BROAD STREET (and Mining Exchange), LONDON, E.C.

Is a SELLER or BUYER of Shares in the Van Mine, Great Rock, and Van Consols at close price. Information on these mines afforded on application.
Shares in all dividend and best progressive mines dealt in.
WEST CHIVERTON shares, as an investment, are good to buy. At current price they will pay 16 to 18 per cent. per annum.
References given.
Price-list sent free on application.
Bankers: Alliance Bank.

MR. W. H. CUELL,
No. 42, CORNHILL, LONDON, E.C.

BUSINESS in West Rose Down, Van Consols, Taquaril, Pestarena, Chontales, Chiverton Moor, Great Laxey, and Buller.

MR. WILLIAM SEWARD, STOCK AND MINING SHARE BROKER, 19, THROGMORTON STREET, LONDON, E.C.
Every description of shares BOUGHT and SOLD at the best market prices.

MATTHEW GREENE, STOCK AND SHAREDEALER,
14, PINNER'S HALL, OLD BROAD STREET, LONDON, E.C.
Bankers: Bank of England.

MR. C. A. POWELL, BRITISH AND FOREIGN STOCK AND SHAREDEALER, No. 1, PINNER'S COURT, OLD BROAD STREET, LONDON, E.C.

BUYER or SELLER of every description of negociable securities at current market prices net.

MR. POWELL is in a position to deal at close prices in the principal gold shares.

WANTED,—An OFFER for 100 St. Just Amalgamated.

SPECIAL BUSINESS in Brynpostig, Mid-Wales, Holmbush and Kelly Bray United, Prince of Wales, Great Vor, North Treskerby, Van, Van Consols, and Caldbeck Fells. References exchanged.
June 25, 1869. Bankers: City Bank, Finch-lane.

MR. E. J. BARTLETT, STOCK AND SHAREDEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.

SPECIAL BUSINESS in South Merilyn, West Godolphin, North Treskerby, Caldbeck Fells, East Lovell, Bryn Gwiog, Van, Van Consols, Frank Mills, West Caradon, Rosewall Hill and Ransom, Great Rock, West Prince of Wales, Royalton, North Jane, Great South Chiverton, Taquaril Gold, Don Pedro, Frontino, and Great Western Mine shares.

*** SOUTH MERLLYN.—BUYER at market prices.

Selected list of mine shares for investment or speculation forwarded upon receipt of two stamps.

WALTER TREGELLAS, 122, BISHOPSGATE STREET WITHIN, LONDON, E.C., DEALS in all STOCKS AND SHARES, either for cash or the fortnightly settlement.

W. T. is always in a position to do business in the Brazilian Gold Mines.

W. T. has SPECIAL BUSINESS in Taquaril Gold Mine (7s. 6d. and 10s. paid) shares, which he confidently recommends to his clients as a first-class investment; the latter are not likely to have any further calls.

W. T. still recommends his clients to purchase shares in the Van Mine, which are still much below their real value.
Bankers: The Alliance Bank.

MR. HENRY MANSELL, STOCK AND SHAREDEALER,
1, PINNER'S COURT, OLD BROAD STREET, LONDON, has FOR SALE the following SHARES at net prices:—

50 So. Condurrow, 30s 6d	1 West Seton, £177½ (ex div.)	35 Chontales, £1 8s. 9d.
10 Great Vor, £15¼.	30 Pestarena, 28s. 9d.	20 Don Pedro, £3⅞ pm.
35 Frontino, 24s. 9d.	50 Great So. Chiverton.	50 Taquaril, 11s. 6d.
30 North Treskerby, 13s.	10 St. John del Rey, £15⅜	1 Devon Con., £162½.
70 Prince of Wales, 24s 9	50 New Prosper, £1.	50 Holmbush and Kelly Bray, £4.
50 Van Consols, £2 18s 9	5 Wh. Mary Ann, £14⅜	30 Tamar Valley.
5 Wt. Chiverton, £46¼.	20 Wh. Grenville, £2⅝.	20 United Mexican, £2⅛
25 South Merilyn, 19s.	50 Yudanamutana, £1⅛	
5 Van, £37⅜.	Thirteen Years' Experience.	

Bankers: London Joint-Stock Bank.

BARTLETT AND CHAPMAN'S "INVESTMENT CIRCULAR AND FINANCIAL RECORD"
(Published on the first Wednesday in each month)

Comprises—A Comparison of the Safety and Profit of English and Foreign Loans, a Comprehensive Review of the Stock, Share, and Money Markets for the preceding month; an Enumeration and Comparison of the Whole Circle of Investments; and Valuable Suggestions for Purchase or Sale.

GREAT SOUTH CHIVERTON MINE.

We have for the past two years drawn particular attention to this mine, and have strongly advocated the purchase of shares. Those who acted upon our advice will now reap the profit, and, as the prospects are rapidly improving, we with equal confidence recommend their immediate purchase. The shares must further and considerably advance in value, as the lode in the rise above the 50 produces 1½ ton of lead per fathom, and the 50 end 1¼ ton per fathom. Splendid piles of lead are being raised, which will soon be got ready for the market. No time should be lost in the purchase of shares.
BARTLETT and CHAPMAN, Stock and Sharedealers, 36, Cornhill, E.C.

MR. THOMAS THOMPSON, MINING OFFICES,
12, OLD JEWRY CHAMBERS, LONDON, E.C.

ROYALTON.—The month's sale of tin realised £418, which will give a handsome profit. This is for a five-weeks month; but the next sale, the Captain writes, will be as much, although only for four weeks. As this mine is now making regular monthly profits, which will be greatly increased upon, and as the supply of tinstuff is practically inexhaustible, the shares are especially worth the notice of those seeking a profitable and lasting investment.

HOLMBUSH AND KELLY BRAY UNITED.—The 35 is already drained at Kelly Bray, and the men are at work clearing up the level. A large increase in the returns may, therefore, shortly be looked for. At Higher Redmoor, in the Kelly Bray sett, a good silver-lead vein has been met with in both ends driving north and south. The lode contains 40 ozs. of silver to the ton.

EBURY.—As will be seen by the reports, they are in the lode or a branch of it, and, from present appearances, it looks like something very good. These shares should be bought.

The almost fabulous success which has attended the adventurers in the VAN MINE is attracting general attention to the district. Mr. THOMPSON has in his hands two of the finest properties on the Van lode, and also closely adjoining the Van Mine, the shares in which he can recommend with the greatest confidence. So far as position and surface indications go, there is nothing to choose between them and the Van itself. Full particulars on application.

MR. T. P. THOMAS, MINING AGENT AND SURVEYOR, 77, OLD BROAD STREET, LONDON.

Lead Mining in the counties of Cardigan and Mongomery has lately been very successful, and likely to continue so. Mr. T. P. THOMAS having a thorough knowledge of these districts is at all times prepared to make selections for investors.

Third Edition, Price One Shilling; post-free, fourteen stamps,

MINING FIELDS OF THE WEST:
A PRACTICAL EXPOSITION OF THE
PRINCIPAL MINES and MINING DISTRICTS of CORNWALL and DEVON.
Published by CHARLES THOMAS,
At No. 3, Great St. Helen's, London, E.C.

MR. CHARLES THOMAS,
MINING AGENT, GENERAL SHAREDEALER, AND AUCTIONEER,
3, GREAT ST. HELEN'S, LONDON, E.C.

TO CAPITALISTS AND INTENDING INVESTORS.—DIVIDENDS 10 to 25 PER CENT.

The Markets remain very firm, especially for shares in Tin Mines.

The following shares may be considered safe investments, and are well worth attention at the present time:—

Name of mine.	Selling price. Per share.	Present dividends. Per share.	When payable.	Interest on outlay. Per cent.
Trumpet Consols	£ 24 0 0	£ 0 14 0	Quarterly	£11⅝
Ding Dong	26 0 0	1 10 0	Quarterly	23
Wheal Jane	45 0 0	1 10 0	Two-monthly	20
West Wheal Seton	185 0 0	5 0 0	Two-monthly	16¼
Wheal Mary Ann	15 0 0	0 15 0	Quarterly	20
West Chiverton	47 0 0	2 0 0	Quarterly	17
Dolcoath	125 0 0	3 0 0	Two-monthly	14⅜
Botallack	255 0 0	16 0 0	Quarterly	25
Great Laxey	19 10 0	0 10 0	Quarterly	10½
Tincroft	17 10 0	0 10 0	Quarterly	11⅜
Providence	36 0 0	1 10 0	Quarterly	16⅜
Wheal Kitty (St. Agnes)	5 5 0	0 5 0	Quarterly	19
Marke Valley	8 10 0	0 5 0	Quarterly	11¾
Herodsfoot	45 0 0	1 10 0	Four-monthly	10

The July quarterly dividend in Trumpet Consols will be 15s.; it may be 20s. per share.

Messrs. SHARP AND CO., Stock and Sharedealers, 33, Poultry, London, will be happy to receive orders in any of the above and other Stocks and Shares.

Messrs. SHARP AND CO. have SPECIAL BUSINESS in the following shares:—

East Chiverton.	North Jane.	Tin Valley.
Chiverton.	Nangiles.	Lovell Consols.

VAN MINE (LIMITED), in 12,000 shares, with £4 5s. paid.
Messrs. SHARP AND CO. have business in these shares. Price, £37 to £38.

VAN CONSOLS MINE (LIMITED), in 12,000 shares, with £2 10s. paid.
This mine is on the same lodes as the Van. We have special business in a few shares. Buyers should apply at once before shares rise in value. Price, £2¾ to £3.

GREAT ROCK MINE (LIMITED), in 3000 shares, £4 paid.
This is a most valuable property, and promises to become very rich. A new lode was cut on the 23d inst., containing rich lead ore. Shares are gradually creeping up; they have been done at £8 and £8½, and will go to £12 in a short time. We believe this will prove a lasting dividend mine, and shares gradually rise to £20 or £30 each. They have about 10 tons of lead at surface, and will very shortly be able to make large returns. Special business in Great Rock shares, and the most reliable information respecting the mine will be given.
Established 1852.] Bankers: London and Westminster, Lothbury, E.C.
Messrs. SHARP AND CO., 33, POULTRY, LONDON, E.C.

MR. HENRY MORDAUNT, STOCK AND SHAREDEALER,
20, THREADNEEDLE STREET, having had many years experience in the market is PREPARED to ADVISE and DEAL in all Mining, Miscellaneous, and Stock Exchange Securities, at the lowest market prices. The following mines deserve attention:—

East Caradon	£ 7⅞ to £ 8⅛	East Carn Brea (call paid)	5s. to 7s. 6d.
Buller	13 to 15		
North Treskerby	13s. to 14s.	Prince of Wales	23s. 6d. to 24s. 6d.

MR. W. H. LANYON,
(Late of Kennall Gunpowder Company)
GUNPOWDER MERCHANT,
TRURO.

MR. J. B. REYNOLDS, 70, BISHOPSGATE STREET WITHIN, LONDON, E.C.,

MR. EDWARD BREWIS, STOCK AND SHAREDEALER,
No. 34, OLD BROAD STREET, LONDON, E.C.

TIN MINES.—The future of mines producing tin is very bright. Those who wish to operate safely can do so in a few things.
Money advanced on mining shares.
Bankers: The Alliance Bank, London, E.C.

MR. JOHN MOSS, STOCK AND SHAREDEALER,
ST. MICHAEL'S CHAMBERS, 42, CORNHILL, E.C.

Business as BUYER or SELLER in Frontino, Chontales, Don Pedro, General Brazilian, and Taquaril Gold shares.
Bankers: City Bank, Finch-lane, E.C.

LEAD MINES AS AN INVESTMENT.
Now ready, by J. H. MURCHISON, Esq., F.R.G.S.,
THE SECOND EDITION OF

THE "LEAD MINES OF CARDIGANSHIRE AND MONTGOMERYSHIRE,"—districts comprising VAN, DYLIFFE, LISBURNE, EAST DARREN, SOUTH DARREN, CEFN BRWYNO, and other important Mines. With a MAP, showing the position of the different Mines, arranged and drawn specially for this Pamphlet.

This edition is revised, with additional remarks, and more mines represented on map. Price 1s.
8, Austinfriars, London, E.C.

THE MINING ATLAS.

MR. SPARGO'S MINING ATLAS is NOW READY.
Issued in numbers, 1s. each, the first of which can be obtained at the MINING JOURNAL Office, 26, Fleet-street; and at 224 and 225, Gresham-house, Old Broad-street, E.C.

MR. H. D. HOSKOLD,
MINING ENGINEER,
LAND AND MINERAL SURVEYOR
CINDERFORD, NEWNHAM.

Gentlemen requiring reliable and correct information respecting any Coal or Iron Mine Property in the Forest of Dean may obtain it on application.
Surveys, Plans, Reports, and Valuations on the usual moderate terms.

MR. J. N. MAUGHAN, STOCK AND SHAREBROKER
(Member of the Stock Exchange),
No. 2, COLLINGWOOD STREET, NEWCASTLE-ON-TYNE,
Bankers: Messrs. Lambton and Co.

MR. THOMAS THOMAS,
ASSAYER, &c.,
COPPER ORE WHARVES, SWANSEA.

INVESTMENT.—MESSRS. TREDINNICK AND CO. are instructed to OFFER FOR SALE ONE MOIETY of a COPPER MINE of great promise—say, 10-20ths—at £200 each; 10 per cent. payable on application, 40 per cent. on approval of the applicant, and 50 per cent. at the expiration of three months. As this is a rare opportunity for profitable and *bona fide* investment, none need apply who prefer market gambling in shares to substantial gains and dividends from legitimate mining.
Crown-court, Threadneedle-street, London, E.C.

MESSRS. STUART AND CO., 93, BISHOPSGATE STREET,
have Business as BUYERS or SELLERS at best market prices in Lucy Phillips, Van, East Bottle Hill, East Carn Brea, West Godolphin, Don Pedro, East Providence, Prince of Wales, East Lovell, Frontino and Bolivia, and Mary Ann Frontino; these shares five weeks ago were 15s. to 17s. each when we recommended them; now 24s. to 26s., or an advance of 50 per cent.

Original Correspondence.

COAL-GETTING.

USE OF HYDRAULIC POWER INSTEAD OF GUNPOWDER.

SIR,—As this invention is now admitted to be important, may I ask you to allow me to state that *my* patent is dated 1863, No. 3066, and so much resembles the more recent "inventions" for the same purpose that I am puzzled to distinguish one from the other?

I append a short extract from my said patent. W. FIRTH.

EXTRACT—"A.D. 1863, NO. 3066."

One of our improvements consists in using a ram worked by hydraulic power, by pumping, for the purpose of splitting or detaching coal, stone, or mineral from the mass, thus rendering the use of gunpowder or other explosive agent unnecessary.

THE WORKING AND VENTILATION OF COAL MINES.

SIR,—The question raised by Mr. J. Warburton, in a paper read before the Manchester Geological Society, and of which you gave a *resume* in the Supplement to the Journal of June 12, is a very important and interesting one. The question I refer to is—What is the reason that "fast shots" cause explosions, when ordinary shots do not? I entirely coincide with Mr. J. Warburton that the reason may be that a mixture of gases, as atmospheric air and (say) 5 per cent. of carburetted hydrogen, which is not explosive by a naked light under the ordinary pressure of the atmosphere becomes so explosive when the pressure is much augmented. This is a point that any experimentalist might easily set at rest, the simple question being—Are mixed gases (atmospheric air and carburetted hydrogen) more explosive under pressure? Assuming, for argument sake, that they are so explosive, it is more than probable that a limit (a certain percentage of carburetted gas) will soon be reached, below which percentage the mixture would not be explosive—that is, at any pressure caused by a "fast shot." Supposing this limit to be 3 per cent., then in any colliery whose normal mixture is above 3 per cent. blasting should not be employed to break up the coal, as a "fast shot" might at any time cause a general explosion, although in the same pit a naked light might not under ordinary circumstances be dangerous. But a naked light might cause a general explosion in a pit whose mixed gases were under the ordinary explosive percentage, but still above the percentage at which they might explode under pressure—for if the naked light were brought into contact with a "blower" the small explosion, which might be nothing more than a strong flash under ordinary circumstances, would by compressing the surrounding gases render them explosive, and so the explosion would be general. If the presumption that mixed gases down to a certain percentage become explosive under pressure be true, Ansell's indicator would then be of use to show when the percentage rose to the limit above which "fast shots" would be dangerous, and naked light possibly so. JAMES WM. WOOD.

West Riding Colliery, Normanton, June 21.

COLLIERY MANAGERS, AND MINES INSPECTORS.

SIR,—In reply to the strictures in last week's Journal, I will first consider these important gentlemen and their relative duties. A COLLIERY MANAGER is one of the most important men in our national industry, and when in care of an extensive colliery, where from fire or water, or both, his men have more than ordinary risk, his life is, without exception, one of continual agitation, if not fear; he is supposed to have a knowledge of all things and all men, &c., above and below ground connected with his colliery; to direct all his *underground managers*, &c., and provide or look after a market for the coal when raised; negociate all matters, &c., connected with the undertaking; and, unless he can make his colliery pay a profit equal to the expectations of his masters, he is soon told his services are no longer required; consequently, his object is to make his colliery pay the greatest amount of profit with the least cost or outlay.

The MINES INSPECTOR, placed as I have suggested, will be free from every consideration of profit (*the greatest point* of all *to the manager*). His duty will only be to look for faults, and the best way to correct them; and, in case his good advice is not taken, it will be his duty to call in the aid of his supervisor, when the manager or others appointed to meet them will inspect the reported faults, &c. The Inspector will be independent of all but his employers, who will engage him to look after faults, &c.; and the fact of his going to many collieries, and seeing so many different ways and effects produced thereby, will render him a most desirable adviser.

I do not see the least relation between the duties of the two men, nor do I see the least division of labour; nor will the responsibility of the manager be changed. The Inspector will become responsible for the performance of his duties, and no more. I feel confident that, if my suggestions were worked into form, and put into practice, *wholesale slaughter* would be a rare occurrence, if ever, and the general run of accidents far less frequent. My suggestions are the result of long experience and reflection on the subject, *as a practical man, mines surveyor, colliery manager, colliery proprietor*, and *consulting engineer*.

The gentlemen we know as colliery Inspectors have too much to do with inquests, &c., to direct much attention to colliery inspection, and although they cannot inspect each pit, &c., once a year, we are assured that "a great saving of life has been effected." If that be correct, and I believe it is so, I ask—What may be expected if we inspect once in every 14 days? I feel confidence in my plan and suggestions, and have no doubt I shall see them carried into effect. The farthing per ton I have named will be far more than the whole cost attending a good and perfect inspection. What has been the cost of accidents, independent of the sacrifice of thousands of brave, hardy men, and the suffering of widows and orphans? But let me confine myself to the mighty god of the day, £ s. d., and in that I see, taking the average of the country, a great saving. REUBEN PLANT.

Wordsley, June 15.

PREVENTION OF COLLIERY EXPLOSIONS.

SIR,—In last week's Journal you did me the favour to insert my remedy for the prevention of explosions in coal mines, and as I have been asked why I recommend steam for the purpose, my reply is that it destroys all gases, and from its great elasticity would permeate into every part of the mine, and destroy the carbonic acid gas and sulphuretted hydrogen, which is the cause of death; it would render the atmosphere pure by condensation, and tend greatly to reduce the heat felt in deep pits. It has been long known that water thrown into old disused wells or caverns will annihilate the carbonic acid gas, and render the same safe to descend, which if not done would be likely to destroy life.

Water owes its fluidity to caloric, hence the advantage of steam, which would disperse in all directions, which it would be impossible for water to do without complete saturation, thereby preventing the working of the pit; whereas steam would have better effect without any inconvenience, as it could be readily conveyed to all parts by the plan suggested in my last letter. The expense would be trifling, when compared with the value of life so often sacrificed. I trust this explanation will be satisfactory, and induce some philanthropic miner to try the experiment, when I venture to say he will soon have imitators, for profits sake.

I hope to send you a plan next week how to utilise the waste coal, now forming almost mountains round the pits, without the trouble of manufacturing it into blocks. JOHN ROBERTS.

Cranmer-road, North Brixton, June 23.

COAL AND RAILWAYS IN NATAL.

SIR,—I shall be much obliged to any of your practical correspondents for an answer to the following proposition:—

Given, as a fact, that there are large beds of coal fit for ocean steamers in the colony of Natal, near to the surface of the soil, and 180 miles from the port of D'Urban; and given further, as a fact, that there are extensive beds of iron ore in various parts of the colony between the said coal mines and the said port—will it answer in a general way, and pay a fair return for capital, to erect an iron foundry for the purpose of constructing rails for a railway now in contemplation between the said coal mines and the port, instead of importing rails from England?

It must be borne in mind that a great subsequent extension of railways may be looked forward to, and that there is likely to be at all times a great demand for rails in India. NATAL.

London, June 21.

THE SHROPSHIRE COAL FIELDS.

SIR,—I cannot agree with some of the remarks upon these coal fields contained in the Birmingham Daily Gazette of the 10th inst. I think we all admit that extensive denudation of the coal measures has taken place, not only as evinced by the Symon fault of Shropshire, but also along the anticlinal ridge lying across the plain of Cheshire, as referred to by Mr. Hall in a recently-published paper in the Quarterly Journal of the Geological Society; but the expression that the coal measures "having first been spread over hundreds of square miles were afterwards torn and wasted" leads one to the impression of such utter devastation in the locality east of the Symon fault, to which the remark refers, that one is hopeful that it may be more an effort of the fancy than a calculation based upon actual data. It is true that the range of the Symon fault appears to include nearly the whole of the eastern boundary of the known coal field, but at present there is no indication of the extent of this particular denudation eastward. We do not know whether it was the result of river action, or the lashing of sea-waves along a coast-line. Probably not the latter, or we should have some indication of marine remains in the calamincar, which forms the bottom of the valley. I do not agree with the writer as to the valley of denudation not being filled up with the younger coal formation; but, on the other hand, consider that it was. The Symon fault at Broseley I believe to be but the eastern extremity of that which is observed at Kemberton, Stirchley, and Lilleshall. If we refer to the map to Prestwich's paper on the Coalbrookdale coal field the line of denudation of the older coal measures is marked by a black line running back from Caughley towards Swinney Mill. It is then lost by passing beneath a patch of Permian, which has been thrown down with the coal measure below in a trough, one side of which is formed by the Swinney fault, the other by the Hay House fault. In workings from pits near Cuckoo Oak, which are on the upper side of the Ray House fault, the Symon fault is met with again, and I have no doubt ranges under the Permian strata of Sutton Hill House and Swinney Mill. The Symon fault appears again at Kemberton. Now, the younger coal formation, as the writer in the Gazette admits, is found to occupy ground upon which no older coal measures are met with, as also to pass over them, and I may add that the very same calamincar as they find at Stirchley or Old Park, at the bottom of the Symon valley is the same as forms the brick and tile clay, or calamincar of Broseley. These younger coals also overlie the old strata at Madeley, and are found in the young coal measure ground which is passed through in sinking at Kemberton Old Park and Lilleshall. In a note which I have by me Mr. Marcus Scott, speaking of younger coals passed through in the Old Park sinkings, says—"No. 1 consists of two seams, 9 in. and 12 in. respectively, on an average. * * * They appear to have been deposited subsequently to the great denudation of the coal measures locally called the Symon fault. They, consequently, extend all over the district on the east side of the Lightmoor fault, sometimes in two and at other times in three coals."

How, then, does the author of the remarks on the Shropshire coal fields make out that "just before the coal seams terminate (*i.e.*, by the cutting off of the Symon fault) the Permians make their appearance, rapidly increasing in thickness as one after the other of the coals disappear." There is rather an indication of a gradual passage from the younger coal measures into the Permian, except when some local cause has interrupted it. Such passage is very clearly shown near Chelmark. I do not think that any considerable thickness of Permian strata of thorough Permian type are passed through in the Kemberton sinking; they are the passage-beds between the younger coals and the Permian formation, though I grant it is difficult to say where to draw the line of division. The rocks near Hay House and Coalport are probably higher in the series of Permian strata than any met with at Kemberton, from their having been preserved from denudation, by being thrown down in a trough, as before observed. Is not the calcareous conglomerate spoken of as being at Coalport quite different in its geological horizon to that at Great Chatwell. The one is of Permian age, the other of the lower part of the Keuper, or else the maps of the Geological survey are wrong.

There is an inaccuracy with respect to the working of coal at Shatterford of the same quality as that at Chorley, or more properly Harcott. Whereas the Harcott coals are, with the exception of a small 6-in. coal, all smut, the Shatterford coal is sulphurous, and lies much higher in the series than the Harcott series. The same lessees are working them both, but there is nothing like 12 ft. of coal at Shatterford. The names of several places at which similar coals are said to have been found are so strangely spelt in the Gazette that I can scarcely recognise them. At Deuxhill, King's Wood, Holycott, Little Scotland, Bayton, Endon, Mamble, Tedstile, and Menith Wood all the coals that have ever been worked or found are sulphurous, and lie above the smut coals, which were certainly worked at Bavenny Wood, and it is said to have been found in the sinkings at Stanley, though I believe never worked there.

The great question to be solved is how wide is this Symon fault; how far must we go eastward before we find the other side of the valley in whose banks the older coal measures will set in again? The western boundary fault of South Staffordshire is clearly a downfall, and at some depth the thick coal will be met with as good as it is on the top side. How far will this extend towards Shropshire before it comes up to the Symon Valley? Nothing can settle the question but boring, and the inference we must draw from the observations on the Symon fault is keep well to the east of the fault, even though you may have much deeper to bore or sink. SALOPIAN.

NOTES ON THE NORTHAMPTON IRON ORE DISTRICT—No. II.

SIR,—I am pleased to notice the encouraging report of your Northamptonshire Correspondent, and that he interpreted my letter, which appeared in the Journal of June 12 last, as I wished. It is a good feature in all undertakings to be sanguine as to successful results when there appears on close investigation every evidence to warrant adventure in the field of speculation. It would be very interesting to your readers, and I should consider it a personal favour, if your correspondent would, if possible, give us the particulars of the late proof by the sinking of shaft—viz., the character of the strata passed through, and the names of the organic remains, if any were found, in this particular sinking. The reason I press this so much is that I may be in a position to either give a contradiction to a report, or give credence to it. Since I wrote my letter I have been in the Warwickshire coal field, and, in casually chatting to a person about mining matters, I happened to touch upon the Northampton ores. To my surprise this person assumed to know a good deal about them. Having a copy of your Journal in my satchel, I gave it him, and asked his opinion on mine and your correspondent's remarks. He, with a sinister smile, remarked that "there would be found no coal there, he was sure, for his father-in-law sunk that very shaft for a trial which was abandoned, because they found nothing." I asked him what he thought of the shales and coaly matter which is said came out of the shaft. He said—"Why, don't you know that somebody actually threw into the hole some bits of coal and batt, in order to deceive the adventurers?" I was somewhat surprised at these remarks, but knowing such tricks had been frequently played before under similar circumstances, I felt bound to attach some weight to them until I ascertained further evidence to the contrary. I am very wishful to get a few more details on this important question, and I feel sure your courteous correspondent will, if possible, clear up this matter, and I will do what I can to assist.

I should not be surprised if such shales were found, but I would again caution speculators with the following remarks from an eminent work on geology. Referring to the Lower Oolite, the writer of that work says—"In certain areas there occur available beds of coal, with their under clays and bituminous shales, which give to the formation quite a 'carboniferous' aspect, were it not for the fossil plants, which are altogether different, and not to be mistaken, even by an unpractised eye, for those of the Palæozoic coal fields." As a rule, we never find such coals to be of sufficient extent to be developed into a "Black Country." As to the ironstones found in connection with these shales, do I understand your correspondent to mean that there were associated with these shales ironstones of a different nature to the well-known Northampton ore, or hydratic peroxide of iron? If so, it is of the utmost importance to know of what the specimens consist, whether they are clayband, carbonate of iron, blackband, hematite, &c. Doubtless your correspondent will favour me with these particulars.

It would be no loss of time, and would have a direct bearing upon the question, if local geologists would carefully examine the section of strata croping from the Lower Oolites into the New Red Sandstone and Permian, as developed in Warwickshire. By doing this an approximate estimate could be gathered as to the thickness of the underlying formations between the true coal measures and Lower Oolites of Northampton. I fully concur with the statements given of yields; but, taking the general average of iron ore, I think from 38 to 40 per cent. would be the safe basis for calculation.

Willenhall, June 21. T. PARTON, F.G.S.

BRIDGE-RAILWAYS, AND TUNNEL-RAILWAYS.

SIR,—In last week's *Mining Journal* a proposition is made by Messrs. Low and Thomas to throw a bridge in three spans across the Mersey, for the purpose of uniting Liverpool with Birkenhead, at an estimated cost of 1,750,000*l*. It is an acknowledged fact that it has long been the crying want of the great port in question that traffic and general communication should by some means be established between the two sections on the northern and southern sides of the Mersey. Several tunnels have been, and are, proposed to be made, but the question is raised whether it would be possible to carry out any of these schemes with safety, having regard to the known exceedingly porous nature of the red sandstone through which they must be bored. There must also be considered the steepness of the gradients at the approaches, both of entrance to and exit from any tunnel, and the difficulties and inconveniences arising therefrom.

If a bridge could be erected, it must be accepted as the plan by far to be preferred for crossing the river. But there are objections to a bridge which cannot be overlooked—1. The crowded state of the Mersey at all times, and any piers constructed in the stream would undoubtedly impede navigation to a very considerable extent.—2. The danger to shipping in stormy weather. These are evils which must be avoided if possible.

Under these circumstances, the attention of the public may fairly be drawn to the new system of viaducts, invented by Mr. Boutet, a French engineer. His principle, which it is believed will enable him to bridge enormous spans without intermediate support, is now in course of trial in Paris. The Emperor of the French paid a visit to the works last week. The system, as demonstrated by the models, was explained to him, and, as stated in the Moniteur and Le Monde Illustre (in which latter is a representation of the fact of the imperial visit), His Majesty was much satisfied with the explanations given by the inventor.

M. Boutet has obtained an order for a bridge to be constructed at St. Malo. This bridge, which is about a mile in length, will consist of two spans. French engineers have no doubt of its successful accomplishment, and thus proved, why should not a bridge on M. Boutet's system be thrown over the Mersey without a pier or break from bank to bank? It is asserted that on this principle viaducts of all sizes can be made at a large reduction in cost; it may, therefore, be assumed that the 1,750,000*l*. named by Messrs. Low and Thomas would be considerably reduced, a matter of very great importance when so large an amount of outlay is contemplated.

TRAVELLER.

BRIDGE-RAILWAYS, AND TUNNEL-RAILWAYS.

SIR,—A notice in the Journal of last week prompts me to ask whether the system of bridge building (designed by M. Boutet for crossing the Channel), which is at present exciting so much attention at Paris, would not afford a means of connecting the railways on the opposite shores of the Mersey and the towns of Liverpool and Birkenhead. As secretary to the preliminary company formed for the purpose of testing the practicability of the Boutet system, I may perhaps usefully offer some suggestions on the subject. His first proposal was to carry a railway across the Channel between Dover and Calais, upon a bridge of 10 arches, each of a span of nearly two miles, which was reduced, at the suggestion of the Emperor, to ¾ mile. The company above referred to have not yet definitely completed their preliminary experiments, but such progress has been made that they have nearly completed the large model, on a scale which, it is expected, will be fully sufficient to afford a just criterion of the capabilities of the system. Their progress has been so far satisfactory that the Emperor, who recently visited the works unexpectedly, with Generals Favé and Failly, and others, expressed his very great satisfaction with what he saw. Two small bridges have been built in France on the Boutet system, and a bridge of a mile in two spans is about to be commenced at St. Malo for connecting that town with the coast of Brittany. Whatever span may be ultimately selected for the Channel bridge, it is perfectly clear that a very much wider span than any yet constructed may be attained by this system at a comparatively moderate cost, and that if it is possible to build such a bridge at St. Malo it must be available for the Mersey. The traffic up and down that river is known to be so great that a bridge supported on piers would certainly prove a serious obstruction to navigation, and be fraught with considerable danger to the shipping. HENRY STEAD, Sec.

Anglo-French Railway Bridge Company, 18, *Old Broad-street, E.C., June* 24.

COPPER MINING, ENGLISH AND FOREIGN.

SIR,—The ruinously low price of copper is beginning to tell seriously on the greatest and most flourishing mines in the world: 20 or 30 years ago these mines yielded large if not immense profits, but now the expenses (and none but practical men know them) increase to a fearful extent, and singular to some, no doubt less acquainted with the geology of the earth, the quality deteriorates with the quantity of every deposit. Why, some gentlemen may ask, do not the mines now pay as formerly, whilst the returns are about the same? The answer is, that the same quantity of ore does not contain the same percentage of metal, and is worth in the market about one-half the price it formerly fetched. There has been a dearth of new discoveries, which explains the secret. Mines will not last for ever. Some persons appear to entertain a notion that when once a mine is discovered it is to last for ever, but such is found not to be the case. We have been recently informed that the deposits of guano do not continue for ever, and that the first immense deposits have been nearly all taken away from certain islands, but luckily other deposits, like mines, are constantly being discovered. Demand and supply, we are told, govern prices. By recent accounts nearly one-half of the once enormously rich mines in Cuba, Australia, Chili, Canada, and even at Lake Superior, in America, are exhausted, so far as profit from working them is concerned. At no very distant period the price of copper, as recently of tin, must advance. Keep back the superabundance for a few months, and the result will doubtless tell for itself. The consumption of tin and lead keeps the market firm, and there can be no very great increase in the production of these metals for some time to come.—*June* 22. A. BENNETT.

MINING INTERESTS OF COLORADO.

SIR,—The following interesting items occur in our last correspondence from Colorado, and which I place at your disposal as worthy of insertion in the Journal for the information of your readers.

British and Colorado Mining Bureau, June 24. WM. COPE.

"*Georgetown, June* 2.—An assay of ore from the William lode, Gold Hill district, made at the Register Assay Office last week, for Mr. George D. Cook, gave the handsome yield of 25 ozs. of gold and 60 ozs. of silver to the ton. The sample assayed was copper pyrites, mixed with a small quantity of iron pyrites and galena, and was no better in appearance than the average of all the solid ore taken from Mr. Cook's claim.

I have just seen 10 specimens of quartz from the Granite district, belonging to Col. Blanchard, all of which were literally speckled over with gold, most of them from the Yankee Blade Mine; but one of the richest, a large fragment of honeycomb quartz, was from the Hathè Jane. The gold appears in specks, wires, and leaves.

Mr. E. T. Carson and Mr. G. E. Hulbert, of Cincinnati, went down to Denver yesterday. They have come out on the part of some Cincinnati capitalists to examine the Caledonia Mine. They have taken away with them some remarkably rich ore, a galena base showing ruby and brittle silver. The specimens obtained are from 20 ft. deep. The ore vein is from 2 to 5 in. wide, and will yield from $800 to $15,000 to the ton. Messrs. Carson and Hulbert express themselves much pleased with the country. Why do not some of your English capitalists come out here and have a look at us? There is not such another field for the

vestment of their capital in all the world. Let them come and see, and judge for themselves.

George W. Cox, of the Silver-Lead Mining Company, last week shipped 1046 ozs. of silver, obtained from a small run of West Snow Drift ore, and J. Harris run in his test-furnace 60 lbs. of selected Good Hope ore, which yielded at the rate of $4·050 coin value per ton. Mr. Harris is making test runs constantly, and invites public attention. The Equator Company here sent another brick east this morning; it weighs 1511 oz. It is from the works of Huepeden and Co. At the Colorado National Bank, yesterday, was to be seen 17 bars of gold bullion, weighing 900 ozs., and also two silver bricks, value $1000.

The comparative statement of business just issued by the Denver Branch Mint, for the past month show we are not at any rate going back in the production of the precious metals—May, 1868, gold, 2163 ozs.; May, 1869, gold, 6728 ozs. May, 1868, silver, none; May, 1869, silver, 4195 ozs.

VAN CONSOLS.

SIR,—Personally I am not connected with the Van Consols Company, nor responsible for any statement respecting it; but, knowing something of the old workings of Bryntail, and the present workings of Van, I wrote in reply to "Frustra Laboramus" in a spirit of fair play, the object of his letter and the inuendos it contained being so palpably obvious. I asked myself if Van is worth 350,000*l.* *premium* when paying at the rate of 1 per cent. on the market price, is 20,000*l.* so large a premium for such a *bona fide* speculation as Van Consols seemed to be on the same lode? My statement that Bryntail made large returns from the lode *now so rich in Van*, and was afterwards abandoned for want of funds, is *strictly true*, however strange it may seem to your correspondent; and I will even challenge the manager of the great Van itself to disprove it. Your correspondent's version that the mine was never worked upon the Van lode is neither consistent with the oft-expressed opinion of Captain Williams, of Van, and every other agent who has seen it, nor with truth. In Bryntail, at shallow levels the lode was as large and as rich as it has yet been in Van. Large returns were made from it, and dividends, of which I have received some, were paid; but *it failed in depth*, and the shareholders, after paying calls for a year or two, searching for ore to the 30 fathom level, abandoned and sold the mine, refusing to raise the capital necessary to work the lode, which had been cut *shallow* in the eastern ground. These truths are on record. The *same lode* returned 150 tons of lead per month from Pen-y-Clyn, immediately adjoining Van, and *failed in depth*; and these facts (which are still hanging like the sword of Damocles), it is said, deterred Messrs. Taylor from buying Van for 40,000*l.* The agent of Van says, however, the lode was worked and failed in the "sticking" or soft part in Bryntail, where it is also unproductive in Van, but in the *hard rock* it is very rich, and *holding in depth*. Van Consols is now to be tried, we are told, in the hard rock about the old workings, and also, which is the chief feature of the property, in the eastern part of the sett, where it is in virgin ground, and in the same rock as Van. Here, if I understand rightly what I read in the circular commented upon by your correspondent, there is said to be some hundreds of fathoms of unworked ground *between* the great course of ore now in Van and that formerly so rich in Old Bryntail; and in this ground a shaft was sunk, which cut the ore, but was not proceeded with. Are these statements true or untrue? If *true*, then Van Consols must be a *bona fide* and cheap speculation, quite irrespective of the old workings or of the barytes works. FAIR PLAY.

THE PONTERWYD MINING DISTRICT.

SIR,—The discoveries being made in this district, and consequent attention of capitalists prepared to open up its resources with adequate means and under proper management, has lately been ably represented by more than one of your correspondents; and the more that is seen of the size and strength of the lodes in the whole system of (say) a mile north and a mile south of Ponterwyd the more should we be convinced from mining analogy that it must become a great district when fairly developed. While on the ground a short time since it occurred to me that, although public attention, by means of your able Journal, had of late been drawn to the productive character of the lodes when fairly opened out, yet there has not been prominent notice given to the adaptability of the principal facility for mining everywhere—water-power. In this respect its situation is unusually good, when we consider the proximity of the River Rheidol, from which, by a system of water-courses, or by the erection of water-wheels with iron rods, power for all mining purposes may be transmitted to considerable distances, and sufficient to work half-a-dozen mines. In this respect Clara Consols is most favourably situated, being near the source of reserve power, its present supply being amply sufficient for years. In other respects the mine, with its recent discoveries in the new ground, will speak for itself. Further south and west of Clara Consols, Powell United, and other productive mines, is a large tract of mining ground forming the manor of Berthddu, which could be worked economically by means of power given by the Rheidol—an unfailing supply, and no mechanical difficulties to prevent its use at any given point or points. The lodes passing through this Berthddu land are numerous, and many of them have been and still are productive where opened upon east and west of the land in question. I hear that Bwich Gwyn and Estumtean Mines are about being started with all energy—the former by that old veteran in mining, Mr. T. P. Thomas, who has also taken in hand Havan and Henfiwch and some other mining property, in all of which we wish him the success in his new entry upon mining in Cardiganshire he did not attain in his earlier connection with it, though the great subsequent success of some of the mines he then selected doing him credit. W. B.

June 24.

MINING IN CARDIGANSHIRE.

SIR,—Mining is become so general in this county, above all others in the Principality, and so many letters have from time to time appeared in the Journal referring to the old as well as the new mines, that really it would appear that one can scarcely find any more to speak of, unless repeating the same over and over again, but to those who are interested, and yet have never seen the country, it may not be amiss to repeat a good thing, even in their ears, or show forth to the mining world where we may and do consider good and safe investments can be entered into. In travelling from Llanidloes to Aberystwith, on the Rhyader-road, there are a number of mining setts being worked vigorously by mining speculators from almost every quarter of the globe. Scarcely can a sett be had from the Van Mine (the king of mines in the county of Montgomeryshire) down to within three or four miles to the seaport town of Aberystwith. The first mine of notice in the county is the Plymlimmon, the highest mountain we have, and there they have had, and still hope to have, a very good paying mine, and profitable to the shareholders. We next come to the Esgair Lee Mine, which some years ago made good returns, and is now for the past few years being worked by a gentleman from Birmingham, who is spending a good sum monthly, under the management of Mr. Corbett, selling at times good samples of lead ore. Further west by road is the Castell Mine, which has been some time idle, but a new company is being formed to re-work it, and no doubt but they will find that a good little mine has been standing for want of boldly speculating. By continuing the journey further west on the road we come to the Ponterwyd Mines, reported on by "L. L. S." in the Journal of June 12—and whose letter would have been better had he enlarged upon it; for truly this neighbourhood is becoming one of great and interesting note. The Powell United, Llywernog, Bog, and Clara Mines cannot be too highly spoken of and appreciated. To the south of these mines are the Bwich-Gwyn and Estumtean run of mines, at one time of good repute, and have of late recommenced working. Doubtless such a run of mining property must in time prove beneficial to the country at large, and profitable to the spirited shareholders. To the west, and adjoining the good little mines of Powell United and the Llywernog Mines, is the Bwadrain Mine, worked by a company of London gentlemen. I believe here they are making some little profits monthly, and expect, as they do shortly, of becoming even better than their neighbours. To the north of this mine lies the Cefn Brwyno. I can say but little of it at present, as the reports of Capt. J. Paull, of Goginan, speak for themselves. He is the manager here as well as at Goginan, which takes our attention further west on the route to Aberystwith. Being of such standing in the annals of mining history, it requires no comment from me, suffice it to say they, like their rich neighbours, are doing their best; but, whilst running down by the turnpike road, I wish to draw attention to the next valley north of Goginan, where are to be found the queen and princesses of Cardiganshire mines, and, doubtless, the richest and most profitable. Just, then, we take the Bwich Consols, Cwm Erfin, Cwm Sebon, Darren, Bronfloyd, and West Bronfloyd, the most western mine in the county, and which, by-and-bye, will lift its loyal banner as high as those spoken of before it, even the queen herself, the old Cwmsymlog; and in speaking of those mines I would that the mining gentlemen of the world should know for a certainty that the great Montgomeryshire king of mines has not as yet shown such a lode as may be seen at Bronfloyd. This not only myself, but others who came down from London to see and inspect the Van Mine, have acknowledged that a greater than the Van is here. I have brought you to the most western mine in the county, the West Bronfloyd, which is adjoining to Bronfloyd, and within 200 fms. of the great riches often and often spoken of in Bronfloyd. This champion lode, or even lodes, are known to exist in West Bronfloyd. A cross-cut has been carried in from the base of the hill to intersect the lode. Cardiganshire Ambyth is now being offered to any parties who may feel disposed to come into our district; but little money is required to carry forth the cross-cut to intersect the lode, as it is now considerably beyond the half of being done. I shall be at all times glad to render any information upon this and other mines in the county. S. TREVETHAN, Jun.

West Bronfloyd Mine, Aberystwith, South Wales.

THE YUDANAMUTANA COMPANY—FACTS.

SIR,—At the sixth annual meeting of the shareholders of this company, in May last year, the Chairman himself said "that the liabilities of the company had been cleared off." Mr. C. Hill, another director, subsequently stated "that the only liability outstanding at the date of the accounts was 1900*l.*, which, no doubt, by this time had been worked off." (See *Mining Journal* May 16, 1868.) A fortnight later the secretary, in answer to an enquiry made by the writer, replied (and the letter is before me)—"The present liabilities of the company, inclusive of the directors' fees, are about 13,000*l.*"

In the balance-sheet just issued by the board the liabilities are given at 14,947*l.* 13s. 6d. Really this is very unsatisfactory, and demands a most careful investigation. I know there is "net profit" set down at 7643*l.* 3s. 6d., and in the report this is accounted for as being appropriated thus—"In the reduction of liabilities, 3036*l.* 19s. 3d., and in increasing the assets of the company 4606*l.* 4s. 3d." But alas! the liabilities of the company, instead of being decreased, are, according to the very lowest estimate, increased 1917*l.* 13s. 6d.

As to the other matters, and the whole affair of the telegram, I leave the report just issued by the committee to speak. I do trust, however, that some sort of action may follow the attentive consideration of this document.

A CONSIDERABLE SHAREHOLDER.

HOLMBUSH AND KELLY BRAY UNITED.

SIR,—I am practically acquainted with the district in which these mines are situated, having known it well for upwards of 30 years, and I am rejoiced to see that it is now about to receive the consideration from the investing public which it deserves. I am fully persuaded that it is the very best locality in East Cornwall, not excepting that of the Caradon, and have been for years anxious to see several setts here spiritedly developed; among the rest, and foremost, too, the Holmbush Mines, which are now being rapidly drained, and which, in my opinion, will prove of ten times greater value to the proprietors than their other setts—Kelly Bray and Upper Redmoor, although these concerns speak for themselves by giving dividends to the shareholders while paying for the machinery on, and forking of, the Holmbush Mines. I do not question that dividends can be maintained for years from Kelly Bray alone, which is a most magnificent property; but let the shareholders await the result of the draining of Holmbush, and a neighbourhood which has lain under a cloud for a considerable time, through want of capital for development, will become the most prominent and popular in Cornwall. I hear of the cutting of a fine lead lode in the upper Redmoor portion of the sett. I know very little of the lead part, but I know the copper lodes to be good enough to give any person concerned satisfaction. I was engaged some few years since in opening up some lodes in a sett adjoining Holmbush on the west, and the backs produced the finest gossan I ever saw, but such was the depression in mining that a company could not be formed. This fact shows that there is no doubt of the lode being found hereafter west of the cross-course quite as rich as on the eastern side in Holmbush.

A RESIDENT IN THE DISTRICT.

[For remainder of Original Correspondence, see this day's Supplement].

LEAD MINING IN WALES AND THE NORTH OF ENGLAND.

[FROM OUR SPECIAL CORRESPONDENT.]

The lead mining operations of Wales and the North of England may fairly be ranked among the most important and interesting of our indigenous industries, as well as among the most permanent, for they have now flourished for generations, with little essential change, and promise still to flourish as far as we can possibly look forward into the future.

The districts which I include under the general head of "Wales and the North of England" are—1. The SIX NORTHERN COUNTIES (with which we may also include the lead districts of DERBYSHIRE), from which about 45,000 tons of lead ore are annually sent to market, raised almost entirely from the limestone measures.—2. The PRINCIPALITY OF WALES (with which we may include the small lead district of western SHROPSHIRE, skirting the county of Montgomery), which returns upwards of 30,000 tons of lead ore per annum, some rich in silver, nearly half of which is raised from the limestone measures of Flintshire and Denbighshire, and the remainder from the clay-slate districts of Cardiganshire and Montgomeryshire, and from scattered mines in Carmarthenshire, Pembrokeshire, Carnarvonshire, and West Shropshire.—3. The ISLE OF MAN, which returns annually about 4000 tons of argentiferous lead ore, averaging 50 ozs. of silver to the ton of lead.

The entire minimum yield of these districts may be taken at fully 80,000 tons of lead ore per annum, containing about 500,000 ozs. of silver, and giving a total money value or from 1,100,000*l.* to 1,300,000*l.*, according to the state of the lead market. The ores richest in silver are those of the Isle of Man, for their average fully equals the average of the Cornish lead ores. The next in argentiferous rank are the ores raised in some of the Cardiganshire mines in the neighbourhood of Goginan, which range from 25 to 30 ozs. per ton. The ores raised in the limestone districts are rarely very rich in silver, although to this general rule there are some important exceptions.

The extensive and important lead mines of Central Wales are found on both flanks of the Plynlimmon range of mountains; those on the west flank comprising the Cardiganshire mining district, and those on the east flank the mining district of Montgomeryshire. These districts, although each marked by distinctive features in connection with the formation of their best deposits of lead ore, have generally been regarded as a whole, for there can be no doubt that many of the same lodes—or rather the same runs of lodes—extend through the Plynlimmon range from one district into the other. Cardiganshire ranks among the oldest of the mining districts in the kingdom, mining there being as old as the civilisation of the country. In the sixteenth and seventeenth centuries it had already attained to great importance, and in the eighteenth century some enormous fortunes were realised, whilst during the last 40 years the Cardiganshire lead mines have been among the most steadily productive in the kingdom—I mean, of course, those fairly worked, for, as in almost every district where jobbing Cornishmen penetrate, there have been mines here, which were never seriously worked, or intended to be.

The Montgomeryshire district is also an old mining field, but from its inland position, and the consequent difficulty of working the mines, it had long failed to reach the same importance as its sister district on the other side of Plynlimmon. The opening up of the country by railways during the last few years has, however, entirely altered these conditions, for at present the Montgomeryshire mines are as accessible, if not more accessible, than those of Cardiganshire. About 18 or 20 years ago the discovery of a fine bunch of lead at the Pen-y-Llyn (or Pencleen) Mine attracted much attention to the district, but the cutting out, rather suddenly, of this bunch again diverted back the public attention to the better known and more popular district of Cardiganshire. So that, until very recently, with the great exception of the Dyliffe Mines, which are exceptionally situate, being in a position to ship the ores on the River Dovey, very little had, compared with its known resources, been attempted in the Montgomeryshire district. Intending adventurers were professedly waiting for the completion of the railway system, but the real fact was that here, as in all other mining districts, what was wanted to throw some life and energy into the country was a good discovery.

This discovery has at last been made in the VAN MINE, and that on a scale which throws into the shade any single deposit of lead discovered in the United Kingdom during this generation at least. I do not by this mean to say that the Van is going *immediately* to surpass the great and continuous returns and profits made by our great lead mines, such, for instance, as the Minera during the last 15 years—although many of those who have seen the mine have no doubt but that they ought to do so. That is a question I may discuss on another occasion; all I mean *now* to say is that no single deposit, or single course, of ore met with in Minera (and, of course, *a fortiori* in any other lead mine) ever approached in magnitude the extraordinary deposit of lead opened out in the 30 fathom level in Van Mine. I believe I am correct in saying that the richest course of ore met with in Minera was that in the 120, on the north vein, opposite Ellerton's, where a lode of lead 10 ft. wide turned out 16 tons of ore per fathom, which, at the *present* value of the ore, would give a lode worth 200*l.* per fathom. In the 30 fm. level cross-cut, opposite the engine-shaft at Van, the lode for its entire width (it certainly is upwards of 7 fms. wide) will turn out at least 27 tons of ore per fathom, which at the present price of Van ore gives a lode worth upwards of 350*l.* per fathom. And for extent, both in length and depth, the deposit at Van equally exceeds that of Minera. Of course, I am speaking of courses of ore of substantial extent both in length and depth, for it is possible that squats of ore may have been met with even still richer per fathom than either of the courses of ore mentioned, but being of little extent were of comparatively trifling commercial value.

The lode upon which the Van Mine is worked can, it is supposed, be traced for a length of from 25 to 30 miles, from the central portion of the Cardiganshire district, across the Rheidol river (according to one view) by Ystymtean, up to Castell valley, and through the Plynlimmon ridge and across the county boundary a little to the south of Stedfa-Gurig; according to another view, from the Darren Mines, crossing the Rheidol north of Ponterwyd, and the county boundary north of Stedfa-Gurig. From the county boundary, in either case, it continues its course through Montgomeryshire, across the sources of the Wye and the Severn, to the Clywedog river, where it enters the Bryntail sett (now Van Consols). From Bryntail it passes into Pen-y-Llyn, and thence into the Van. East of the Van it has been opened on at Cwmdulluan, under the name of East Van, and east of this again at Glangwden. East of this, it is still supposed to continue its course through the wide valley which opens out south-east of Trefeglwys, and indeed, according to some, across the Cambrian line towards Llanwnnog.

The Van Mine is situated about 2½ miles to the north of Llanidloes, on the north bank of a small stream, called the Ceryst. The lode crops out some considerable distance up the hill, sufficient to allow of an adit level, commenced some way up the hill, intersecting the lode at a depth of about 30 fms., and underlies moderately south—*i.e.*, with the inclination of the ground—towards the valley. The length of the sett is about 800 fms., in the middle of which the workings are situated: as the total length of the lode opened on altogether does not exceed 150 fms., there is at each end of the mine upwards of 300 fms. of virgin ground between any present workings (except some mere surface trials) and the boundary. The mine is on the property of the Earl Vane, who, with great liberality, has recently agreed to renew the lease for a term of 21 years, from August next, at 1-14th dues.

The lode, and with it a fine course of ore, was first intersected in the adit level about four years ago. Previous to this the mine had been working for a period of about 12 years—if, indeed, the word "working" can properly be applied to the intermittent driving of an adit level by two men. During this period, and up to the time when the mine became self-supporting through returns above the adit, the sum of about 1650*l.* had been, on the whole, expended; so that this sum, and not the 50,000*l.* paid for the mine by the present company, must be considered as the real capital that has been laid out on the development of the Van Mine, which is now worth nearly half-a-million. We have all heard—indeed, I may say we have heard sufficiently often—of the 1024*l.* which discovered Devon Consols, and of the 640*l.* which was the capital expended on South Caradon. I think by the side of these we may fairly place, for the benefit of the writers of future prospectuses, the 1650*l.* which was the total sum expended to make the Van a dividend mine.

The most obvious characteristic of the Van lode is its immense width, which at places—as in the stope 5 fms. above the 15 fm. level, 14 fms. east of shaft—is quite 62 ft. wide: the average width of the lode is about 30 feet. This immense lode is overlain, forming its hanging wall, by a great body of shale, which is locally called "sticken" or "flookan," but is as much a bed of shale as any met with in Minera, or Talargoch, or in the Shropshire mines. Above the adit this wall of shale has a great width—it is fathoms wide; but in sinking below the adit it rapidly diminishes in width, and at the same time seems to change into, or rather to comprise in it, an orey lode. The engine-shaft, which is sunk vertically from the surface to cut the lode at the 30 fm. level, recently passed through this shaley ground, with its included lode, showing a splendid course of lead ore, worth some tons to the fathom, and quite distinct from the main part of the lode. When the shaft, in sinking, had passed through this course of ore it was supposed by some that it had gone through the lode itself; but the fact is that the shaft has not yet touched the main part of the lode. The size and productiveness of the lode at the 30 is as follows:—Main part of lode 5 fathoms wide, worth 4 tons per cubic fathom, giving a total value of 20 tons per fathom for the entire width of this part of the lode; north part of lode, 2 fms. wide, of a harder and of a more capelly nature than the main part, worth 2 tons per cubic fathom, giving a total value of 4 tons per fathom for the entire width of this north part; and the south part, in shale, worth at least 3 tons per fathom. This gives the total value of the whole lode, as laid open at this level, at 27 tons per fathom for its entire width, which, at 13*l.* 10s. per ton, gives a money value of 360*l.* per fathom. The lode in the back of the 30 is yet untouched; and on an average not more than 3 or 4 fms. of ground have been taken away in the back of the 15 fm. level, so that there cannot be less than 25 fms. of whole ore ground standing laid open between the adit and the 30. Of course, in a lode of this width it is not easy to say what its value may be at every point, for it is obvious that a level, which is only 4 feet wide, cannot tell all about a lode 40 feet wide. The course of ore has, however, been proved to continue for 85 fms. long (probably for 100 fms., but its absolute continuity for this length is not certain), for which length, as I understand from Capt. Williams, it has, wherever opened on, shown the average width of 5 fms. A course of ore 85 fms. long by 25 fms. high gives us over 2100 running fathoms (that is, fathoms comprising the whole width of the lode) of ore ground discovered. I have shown that in the 30, opposite the engine-shaft, the lode is worth at least 27 tons per fathom; and 2100 multiplied by 27 gives 56,700 tons of ore, showing, at 13*l.* 10s. per ton, a money value of 765,000*l.* Of course, the lode above the 15 is known not to be so good as above the 30; and, as I have said, no one can tell positively what the lode even between the 15 and 30 may turn out at every point, until cut into at every point; but, as against this, there are hundreds of fathoms of good ore ground standing above the adit, which I have not taken into account. These figures, everyone must admit, are unparalleled, and almost incredible. I confess I myself have almost shrunk from writing them down; but the facts are patent to the world, and, with every desire to take the most dispassionate view consistent with the facts, I have not seen my way to evade, or to reduce, these figures, except by the qualifications I have given above. On another occasion I may go into this subject with more detail; I have said enough, however, to show that, making every allowance and deduction which the most determined scepticism can suggest, there is a deposit of lead ore at Van such as has not been seen in these kingdoms in our days.

Another remarkable feature of the Van lode—and this feature is common to the adjoining mines on the same lode as well as the Van itself—is that when first opened on it gives off, for a metallic mine, considerable quantities of fire-gas. This has frequently occurred at Talargoch and other mines in the limestone contiguous to the coal measures, but in the ordinary clay-slate formation of Central Wales nothing similar has hitherto been known. This fire-gas has obviously some connection with the great bed of shale overlying the lode, which in places certainly contains a notable quantity of carbonaceous matter.

As to water, there is scarcely any in the Van Mine, and the ground—both the lode and country—is remarkably easy, rarely costing more than 5*l.* per fathom to drive; so that in these respects the mine can be worked unusually cheaply. There is, indeed, only one difficulty in this mine, and that arises from the immense width of the lode, all of which has to be taken away, and the bad nature of the hanging wall of shale, which can scarcely be opened on 6-feet high without swelling open and commencing to fall. Capt. Williams considers that to keep open such a lode by timber, even with the aid of arches of lode, is hopeless, and, consequently, he proposes to fill up with deads the *whole* of the gunnies left by the taking away of the ore.

The driving of the adit level at Van Mine was continued for several years, on the small and intermittant scale I have mentioned, by Mr. Edward Morris, of Oswestry, and Mr. Howell, of Holywell, the former having three-fourths and the latter one-fourth of the mine. Mr. Howell died before the discovery was made, but his interest was carried on by (or for) his sons; and four years ago, as I have stated, the discovery was made on the intersection of the lode in the adit. Unfortunately, within little more than a year of the discovery, Mr. Morris died prematurely, just as his career of bold, but rather multifarious, speculation had met with such a crowning success; for there is little doubt, if he had lived, he would never have parted with the smallest share in the Van Mine, upon the prospects of which mine he was, in the views of many of his acquaintances, simply mad, such madness being brought about by the enthusiastic advice (or, as Mr. Morris's acquaintance considered, the still greater madness) of Capt. Williams. Many have heard Mr. Morris, soon after the lode was cut in the adit, speaking in an almost prophetic strain of the future of the Van, just as we have it at present—a mine with cou.ses of ore fathoms on fathoms wide, and surpassing every other lead mine in the kingdom; and they marvelled that a man, generally so shrewd and able, should take so apparently exaggerated an estimate of a little adit level mine: many, I know, marvelled still more what kind of man that Capt. Williams could be who put such wild notions into his head.

Upon the death of Mr. Morris it became necessary that the mine should be sold, and certainly nothing is more remarkable than that, when consequently all the leading mining engineers and mine agents of North and Central Wales were called in to consult on and value the mine, every one of them, with scarcely an exception, should have failed to appreciate its worth, or, probably to speak more strictly of the state of things at the time, its promise. Messrs. John Taylor and Sons had, of course, the first offer, as they have of everything, having been the leading people in metallic mining in Wales for the last two generations; but Mr. John Taylor failed to see the opportunity, although he might, at one time, have bought the mine for 40,000*l.* I will say this for Messrs. Taylor, they had a consciousness of the value of the mine, for, for no short period, their agents were underground there weekly. They considered about it, and pondered about it, but lacked the heart or the judgment to do the one thing they ought to have done—that is, to have bought it. Mr. Henry Dennis, too, of Wrexham, usually considered one of the last men in Wales to, knowingly, let a profit slip through his fingers, and who had been a partner in other matters with Mr. Morris, frequently visited the mine

for the executors, and might over and over again have purchased it for the Minera party, whom he is generally understood confidentially to represent. But he failed to appreciate the prospects of the mine, and the same may be said of more than one other eminent mining engineer of the same neighbourhood, and of Shropshire. So much for the judgment of fashionable inspecting mining agents! The truth is, metallic mining is a singular pursuit. We have as yet (whatever quacks and professors may say to the contrary) failed to discover any general laws concerning metalliferous deposits; but still each district has certain local laws, and sometimes even the different mines in each district. These can only be known to men who have worked, and watched, and observed (for some men may have a fact under their eyes for half a lifetime, and never see it) in the district, or, at least, those who derive their information from such men. Capt. Williams could tell some curious stories of the downright nonsense talked and, I fear (to the cost of their employers), reported by many of these swell inspectors during their recent visits to the Van Mine. Of course, it must be understood that when the mine was sold it was not worth anything approaching its present value, for the lode had not then been cut into at the 30, although a sink was down to that level. But even at the 15, with the prospects going down in the bottom of that level, it would have been cheap at many times the sum paid for it.

The honour of being the first practically to appreciate the Van Mine is unquestionable due to Mr. George Batters, of the Stock Exchange, London. He was informed, first, I believe, by the writer of these lines, that there was in Wales a mine on sale where he would have the opportunity of repeating his West Chiverton achievement—a rich mine offering for at least a third of its value, which all the local world were looking on at, but which all, even the Taylors, lacked the pluck to buy. Mr. Batters soon afterwards got an order of inspection, and visited the mine; and, on the evening of the very same day he first saw it, he wrote from the hotel at Llanidloes, making the offer for the mine, which resulted in the ultimate purchase.

Immediately he had decided on buying, Mr. Batters was fortunate in securing the co-operation and aid in the carrying out of the purchase of Mr. T. C. Mundey, so well known for 20 years as a leading member of the Stock Exchange. These gentlemen, associated with Mr. Oldrey and others of high commercial and financial standing in the City of London, have undoubtedly, by the influence of their position and character, been the means of causing the extraordinary discovery at Van to be earlier appreciated by the public than would probably have been the case had the mine been brought forward under weaker or less known auspices.

As most of your readers know, Mr. Batters was one of the three gentlemen (and, of the three, the leading mind) who some few years ago purchased West Chiverton for 30,000*l.*, not more than one-eighth of what subsequently proved to be its value. This mine (which was for sale under precisely the same circumstances as the Van—that is, in consequence of the death of its owner, Mr. Cookney)—was, strange to say, also for a long period under offer to Messrs. Taylor, and ultimately declined by them. It certainly is a circumstance of which any man may be justly proud—and of which Mr. Batters has every reason to be proud—that within a period of little more than five years he should have, acting on his own judgment, been the leading actor in the purchase (for, on an average, not more than what ultimately proved to be a tithe of their value) of the only two great mines discovered in the United Kingdom during that period.

Meetings of Mining Companies.

GREAT WESTERN MINING COMPANY.

A general meeting of shareholders was held at the offices, Austinfriars, on Monday,—Mr. EDWARD COOKE in the chair.

Mr. J. H. MURCHISON (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

A statement of accounts was submitted, made up to the end of April, which showed a credit balance of 3561*l.* 15s. 4d.

The report of the agents was read, as follows;—

June 19.—Fisher's Lode: Thomas's engine-shaft has been enlarged, timbered, cased, and divided from surface to the 10 under adit, and is at the present time sinking below this level, and down 4 fms.; we expect in about five weeks from this time to get the shaft complete to the 20, which is the bottom level at this part of the mine. The 20 has been extended east, so as to come opposite Thomas's shaft, also a cross-cut driven south 3 fms. 5 ft., and a rise of 3 ft. towards the shaft. Pressure shaft has been enlarged and timbered from the adit to the 30. The 10 has been driven west of Jones's shaft 5 fms. 2 ft., and a rise put up towards the adit level 6 fms.: so soon as there is a communication effected it will ventilate both levels, and enable us to drive the adit level, where we have a profitable lode. The adit is cleared and timbered in various places from Annie's engine-shaft to Thomas's shaft, a distance of 320 fms., also launders fixed in the same 200 fms., in order to take away the water from the engine now to be erected. The 30 from surface has been driven 5 fms. 3 ft. through a lode worth 3*l.* per fm., the back of which is now being taken away by tributers; the lode in the end at the present time is worth 3*l.* per fm.—Middle Lode: Curtis's flat-rod shaft has been sunk 9 fms., and is down this depth below the 20; the lode is 3 ft. wide, worth 8*l.* per fm.; we hope in about a fortnight from this time to commence driving east and west at the 30, where most likely we shall open up a rich piece of ground, the level above having gone through a lode for 50 fms. in length, varying in value from 5*l.* to 30*l.* per fm. The 20 has been driven during the last three months about 6 fms., through a lode worth on an average 9*l.* per fathom. The lode in the end east, at the present time, is worth 6*l.* per fathom. In the 7 east we have driven east 2 fms.; the ground has been hard, and the lode in a disordered state.—CaunterLode: The 20 has been driven 6 fms.; the lode for this distance has produced a little tin, but not sufficient to pay for work. The 17, from surface, has been extended 8 fms., through a lode that will be taken away at a small profit.—South Lode: The adit level has been driven west of White's shaft 10 fathoms; the lode in the present end is worth 5*l.* per fathom; the last 3 fathoms which have been driven has shown a decided improvement; this we consider a most important feature, as there are no workings between this level and the surface, which is at present 30 fathoms.—Stevens's Lode: The 27 fm. level has been extended east of Pump shaft 5 fms.; the lode for this distance has been 3½ ft. wide, and produced tinstone that will just pay for stamping. In our tribute department we have 50 men employed, at tributes varying from 8s. 6d. to 15s. in 1*l.*, at a standard of 60*l.* per ton, the tributers paying all expenses. There are employed in and on the mines 269 persons. At surface the calciner-house and flues are built, and the calciner put to work, which answers its purpose exceedingly well; also built a large dressing-house in connection with the same. The house for the 70-inch cylinder engine is nearly to its height, and will be ready for the engineers to commence erecting in a fortnight from this time, and we expect to get it to work about the middle or latter part of August next. The engine and boilers are on the mine ready for fixing. As regards future prospects, we can only reiterate our former expressed opinion, that when the mine is opened below the present bottom levels it will become a highly remunerative property. In conclusion, we would say the cost on our new additional work has been 2149*l.* 3s. 8d., and the returns (say) 3296*l.* 5s. 7d.; therefore, taking into consideration this extra outlay (to the end of the present month), the mine has fully paid the ordinary cost of working, amounting to 3110*l.* 6s. 9d. We would also remark that the above additional cost has been made in order to erect machinery to go under the present workings, and when done we have no doubt in saying the mine will make large profits. Another important feature is that the ground is so easy for exploring that, although the value of the different points is estimated at a low figure, yet nearly all the ground passed through during the working of the present company will be taken away at a profit.—EDWARD ROGERS, EDMUND ROGERS.

The CHAIRMAN said he had much pleasure in meeting his co-shareholders upon the present occasion, inasmuch as it afforded him an opportunity of informing them that everything essential to the speedy accomplishment of that result for which the present company had been especially formed was being progressed with in the most satisfactory and economical manner. Those who associated themselves with the enterprise at its formation would, doubtless, recollect that the primary object was to erect more powerful machinery for the development of the run of tin ground driven over in the 40 fm. level for a distance of between 200 and 300 fathoms—a feature, he thought all would agree, in itself sufficient to justify the expectation that the Great Western Mines would shortly rank among the most productive tin-producing properties in Cornwall. A 70-in. cylinder engine, with boilers and house, and a considerable quantity of pitwork had been purchased for 950*l.*, and it was his hope, as well as that of his colleagues upon the committee, that in something like three months hence they would be enabled to call the shareholders upon the mine to see for themselves, not only that they were interested in a property which well deserved their best consideration, but that their expectations as to its value were in course of rapid realisation. That it was an extensive run of mines, requiring only adequate development to make it a permanently profitable enterprise, was the opinion of all practical authorities who had inspected it, and more especially of those who resided in the locality. As to the accounts, the statements now submitted embraced every item of expenditure incurred since the last general meeting, and he hesitated not to say that the whole of that expenditure would prove of permanent benefit to the company. (Hear, hear.) He repeated that he hoped he should have the pleasure of meeting his co-shareholders upon the mine in September, when they would be better able to form some correct idea of the actual capabilities of the property in which they had become interested. (Hear, hear.) With those few remarks he would content himself by stating that the manager (Capt. Rogers) was present, and would be glad to afford any additional information to that contained in the report, while he (the Chairman) would be glad to reply to any enquiry as to the financial condition of the company. He then moved that the report be received and entered on the minutes, and that the accounts be passed and allowed.

Mr. MURCHISON, in reply to a question, stated that the increased cost for May, arose from the additional outlay incurred in the erection of the engine and engine-house, and the works connected with it.

The CHAIRMAN added that the excess of outlay over revenue—or, more properly speaking, the expenditure upon capital account—would probably for three months be at the rate of (say) 400*l.* to 500*l.* per month, so that there were grounds for believing that the next account would show a credit balance of 1500*l.* after every expenditure in connection with the attainment of the object for which the company was formed. (Hear, hear.)

Capt. ROGERS said that had it not been for bad weather the engine would have been got to work by the beginning of Aug. instead of the beginning of Sept. The engineer would begin to put in the engine about a fortnight from the present time, and it would take probably six or seven weeks to complete its erection.

Mr. R. R. MICHELL, of Marazion (a member of the committee), mentioned that as the engine was a very heavy one some allowance must be made for additional time for its erection.—Capt. ROGERS reckoned that in something like nine months the mine would be brought into a good profitable condition. In the meantime, however, the returns would be increased and the costs diminished.

Mr. R. R. MICHELL said he could not show his confidence in the success of the mine in a more substantial way than by taking the interest—300 shares—which his brother and himself had in the company. As the Chairman had said, there had been a run of tin ground for about 300 fms., and he (Mr. Michell) might add that in no other locality had such an extent been opened up. The advantage was that it could be stoped for 15s. to 20s. per fathom, so that a lode worth 5*l.* per fathom was equal to a lode in some districts worth 40*l.* to 50*l.* per fathom. The ground, too, stood well without timber. If the lode improved in depth—of which there could be no question—these mines would prove of great value.

Mr. PETER WATSON thought those present should be reminded of the fact that in addition to Fisher's there were the middle, the caunter, and several other lodes that had been but partially developed in former operations.

The CHAIRMAN, in reply to a question, stated that upon a moderate estimate it had been computed that the object for which the company was formed would be satisfactorily accomplished, after which there would be left an unexpended balance of 2500*l.*, including the spare machinery which they had for sale, of the value of about 1000*l.* Under these circumstances, it seemed more than probable that the shareholders would never be called upon to put their hands into their pockets to subscribe more capital for the purposes of the mine. (Hear, hear.)

Mr. WILLIAMS considered the general prospects of the undertaking were of a very satisfactory character.—The report was received, and ordered to be entered on the minutes, and the accounts were passed and allowed.

Mr. PETER WATSON considered it but an act of justice to their manager, Capt. Rogers, to call the attention of the shareholders to the energetic manner in which he was carrying forward the various operations. Since the company took possession of the property, the main shaft had been completed to 20 fms. under the adit, or 50 fms. from surface, in the short space of some six months.

Upon the proposition of Mr. WILLIAMS, seconded by Mr. W. A. BROWNE, a cordial vote of thanks was passed to the Chairman for the able way in which he had presided over the meeting, and for the explicit and satisfactory information he had communicated.

The CHAIRMAN having appropriately acknowledged the vote, reiterated his firm conviction that in the Great Western Mines they possessed a property which would prove a remunerative and lasting mine. No attempt had been made to give a fictitious value to the shares in the market, which was a fact which shareholders should be made acquainted with, as some had advertised their shares for sale at a price much below that at which he was a buyer. If shareholders chose to part with their property before the time had elapsed to complete the work the company had undertaken, no one but themselves were to blame. All he could add was that he fully believed the time was not far distant when those associated with the enterprise would congratulate each other upon the realisation of no ordinary success.—The meeting then separated.

GREAT WHEAL VOR UNITED MINING COMPANY.

The quarterly general meeting of the shareholders was held at the offices, Gresham House, Old Broad-street, on Wednesday,

Mr. GEORGE NOAKES, F.G.S., in the chair.

Mr. TRURAN (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

The report of the committee of management was read, as follows:

The committee have great pleasure in stating that the returns from the mine have been well maintained. The general prospects are encouraging. The results of the operations for the past quarter have been more profitable than the committee have been able to present to the shareholders for a long time, although the cost, on account of extensive surface and underground works, has been unusually large. A new engine-house, for the erection of the 60-in. engine, is in course of building. Preparations are being made to carry the whole of Metal water to the stamps. The south floors are being enlarged for increased stamping power, and other important works are in progress which are required to be accomplished before the coming winter. The committee are most desirous to have these works speedily finished, in order to facilitate to the utmost the development of the western part of the mine, which is gradually opening out a large extent of productive ground, and which offers every indication that it will become more valuable in depth. The levels west of Ivey's shaft have improved, and the deeper ones are fast approaching the line of junction which unites Metal and Schneider's lodes, which at all points eastward proved so highly productive. The committee regard these improvements as very encouraging for the future prospects of the mine, and they hope by energetic working to have the 157, 162, 194, and 204 fm. levels, west of Ivey's, all brought up under each other west of Edwards's, and made available for stoping, within a year; and, if successful, a new and permanent mine may be opened out. In the meantime, the committee hope that the tribute ground which has been hitherto so productive may continue to maintain returns until this important work is accomplished. Average cost of sinking and driving, 12*l.* 12s. 11d. per fathom. Average earnings of tutworkers, 3*l.* 2s. 6d. per month. Average earnings of tributers, 4*l.* 7s. 4d. per month. Average tinstuff per fathom, 11 tons 15 cwts. 2 qrs. Cost of dressing 1096 tons of tinstuff (produced 50 tons of tin), 8s. per ton of stuff, or 8*l.* 15s. 1d. per ton of tin.

The report of the agents was read, as follows:—

June 22.—Metal: The 216 is driven east of Metal shaft 8 fms. towards the winze sinking below the 204, and are now commenced to cross-cut north to communicate with the winze; the ground is hard, and progress slow. The 204 is driven east of shaft 15 fms. on the lode, which in the present end is 1 ft. wide, worth 12*l.* per fathom; this level has passed through about 10 fms. of ground, worth from 20*l.* to 40*l.* per fathom. The winze sinking below this level is down within 10 ft. of the 216; the lode in the bottom of the winze is 9 in. wide, worth 10*l.* per fm. We are stoping in the bottom of the 204, west of the sump-winze, on the north or main lode, which is 3 ft. wide, worth 30*l.* per fathom; this will prove the dip of the shoot of tin driven through at this level, which appears to be westerly, and if so we shall not have to drive the 216 any great distance east of Ivey's shaft to intersect it.—Ivey's: Ivey's engine-shaft is sunk 4½ fms. below the 204; in the last few feet sinking the lode has taken a more downright direction, and is looking more congenial for the production of tin. The 204 is driven west of shaft 10 fms.; the lode for the whole distance is worth on an average 20*l.* per fathom, and the present end is worth 30*l.* per fathom; this is a very important point, it being driven in virgin ground. The 194 is driven west of shaft 25 fms., and has passed through some good bunches of tin; the lode in the present end is 18 in. wide, worth 15*l.* per fathom. A winze sinking below this level is down 4½ fms. on a lode 2 ft. wide, worth 12*l.* per fathom; this winze is about 2 fms. west of the 204 fathom level end, and when communicated will open out a good piece of ground. The 162 is driven west of shaft 85 fms.; the lode and branches in the present end are 3 ft. wide, and worth full 20*l.* per fathom; this end is now within 17 fms. of being under Edwards's shaft, and from a productive lode or dropper we have north of the main lode in the level above, which will fall into the lode at or above this level, we expect a great improvement within the next three months. The 157 is driven on the north lode 2½ fms. west of the rise, against Edwards's shaft; the lode is 1½ ft. wide, worth 20*l.* per fathom, and letting out a quantity of water, which is entirely a new feature in this part of the mine. The rise in the back of this level, against Edwards's shaft, is up 5 fms.; the lode is 1 ft. wide, producing a little tin, but not of much value. A winze sinking below this level is down 4½ fms. on lode and branches, which are 4 ft. wide, and worth 25*l.* per fathom; this winze is 11 fms. west of the 162 fm. level end, and owing to the increase of water we are obliged to suspend it until the 162 fm. level end advances. Edwards's shaft is sunk 6 fms. below the 125; the ground is favourable for sinking, and the water greatly fallen off, and we are now making good progress in sinking; there are about 12 fms. of ground standing between the shaft and the rise, which we expect to communicate in about two months. The 125 is driven west of Edwards's shaft about 5 fms. on a large, well-defined lode, but no tin to value. We are glad to say our tribute department continues to yield well; we have 46 pitches working at about an average tribute of 7s. in 1*l.* During the past month we have taken out foundation for the 60-in. cylinder engine-house at Edwards's, and have commenced to build the same, which we hope to have complete and engine working by the time the wet season sets in. We have also driven a lobby from Metal to Ivey's shaft to take up the condensing and other water through to a 18-in. pole; that we are now about to fix in Ivey's shaft, 8 fms. below surface, to heave all Metal water to Wheal Vor for stamping and dressing purposes, so that we shall have no lack of water for dressing through the summer. Our pitwork is in good order, and all the machinery working well, and the general development of the mine progressing most satisfactorily.—S. HARRIS, J. JAMES.

The CHAIRMAN said it was with no small degree of gratification, considering the number of years they had been working the mine, to have the pleasure of presenting to-day reports which he thought were exceedingly satisfactory and most encouraging. (Hear, hear.) They were satisfactory in regard to the returns which had been made during the past quarter, and most encouraging as to the future. (Hear, hear.) The immense amount of tin that had been returned during the past seven or eight years was a sufficient evidence as to the richness of the ground worked up to the present period; and it would be seen by the report that the ground now being passed through was valued at an average of 20*l.* to 30*l.* per fathom, the material feature being that it was virgin ground, while the "strike" of the tin being west there were grounds for hoping that its value would still further improve as the explorations were extended in that direction. Another feature of importance was the attainment of the point at which they would again find the junction of Metal and Schneider's lodes, those lodes having under similar conditions proved so very productive. The indications were exceedingly encouraging, although the "rise" at Edward's shaft, above the 157, had at present become poor; that, however, said nothing against the features which appeared to present themselves in depth. The committee, as stated in the report, regarded these improvements as very encouraging for the future prospects of the mine, and they hope by energetic working to have the four deeper levels, west of Ivey's shaft, brought up under each other west of Edwards's, and made available for stoping within a year, and if successful a new and permanent mine may be opened out; and there is every reason to believe that good returns will be maintained from the ground now worked on tribute until this important work is accomplished. Whether they would be equal in the coming quarter to what they had been in the past it was impossible for him at present to say.

A SHAREHOLDER asked if that would leave the reserves untouched?—The CHAIRMAN said it must be recollected that for some time past the "ends" had not been producing the quantity of tin that had been returned. At one period two-thirds of the returns were from the "ends" alone, but that ground became poor, hence he supposed the difference in the market value of the shares of 30*l.* and 16*l.* Most of the tin now being returned was from tribute ground, at an average of 7s. in 1*l.* Formerly the whole of the productive ground was worked on tutwork, because it was so rich. It was the remains of former reserves already stoped that were now set on tribute, and the advantage is that tributers push into all nooks and corners, and the result is that the tinstone is not only picked cleaner from waste, but that their explorations often lead to most important discoveries.

A SHAREHOLDER asked how long the present reserves would last?—The CHAIRMAN said that, while it was impossible for him to reply to that question with any degree of accuracy, he might state that there was every reason to hope the present tribute ground would continue till new ground was opened out. They were now taking from the new ground only such ore as the ends produced, therefore it would become available for future stoping—in other words, become a new mine. He then proceeded to read the financial statement, showing the actual position of the company at the present time. It was as follows:—

The audited cash account to April 30 last showed a balance of		£ 3,913	0 3
Since which date there has been received—			
Tin sale in May		3,777 14	4
ditto June		3,695 14	4
Sundries sold at the mines		21 6	0
Total		£11,407 14	11
And paid—Cost for April	£2513 6 3		
Sundries, travelling expenses, postage, &c.	29 0 5	= £ 2,542 6	8
Balance (cash and bills)		£ 8,865 8	3
The actual account stands this day as follows—			
Balance as above		£ 8,865 8	3
From which deduct—Cost for May	£2541 15 5		
Sundries, salaries, &c.	192 5 0	= £ 2,734 0	5
Balance in favour of the mines		£ 6,131 7	10

The CHAIRMAN said that, in accordance with the statement of the committee at the last meeting—that if the surplus balance was brought up to its normal amount of 3000*l.* they would be prepared to recommend the division of the profits realised—he had much pleasure in stating that the committee had agreed to advise the payment of a dividend of 10s. per share, which was double the amount paid last time, and would leave, after its payment, a surplus balance of 137*l.* to be added to the amount to be carried forward to the credit of next account.

The report and accounts were received and adopted, and a dividend of 10s. per share was declared.

The committee of management were re-elected, and Mr. George Noakes was re-appointed the Chairman and managing director of the company.

The CHAIRMAN said, on behalf of himself and his colleagues, that he begged to return their sincere thanks to the shareholders for their continued confidence. They all knew the anxieties attending an enterprise of this character. He would not, however, on this occasion enfold himself in the wet blanket he was supposed sometimes to wrap around him, because of his aversion to over sanguine exaggerations, for he could, he believed, fairly at this time congratulate the meeting upon the success of the present quarter, and the encouraging character of the future. (Hear, hear.) He could assure them that they had the committee's best hopes of success, and he believed the shareholders all knew they had the committee's best efforts to secure it. (Hear, hear.) The success of a mine did not depend upon a managing director or committee, but upon the productive character of the ground; the skill and judgement of the mine agent was important in the best mode of working it. It was his (the Chairman's) duty, as it was his pleasure, to watch carefully over every item of expenditure in the working, and whenever it was necessary to go to the mines to consult with the agents, if he could by so doing promote the interests of the company, and the result had proved that on several occasions they had been able to carry out important reforms. He saw Mr. W. Harvey present, who could testify to the *bona fide* and hearty manner into which all connected with the working of the mine had co-operated in this direction. Upon these visits he (the Chairman) generally slept at the mines some two or three nights, and went into every working detail. He again thanked the shareholders for their renewed mark of confidence, and he hoped, as he believed, that the efforts of the executive would continue to be successful. (Hear, hear)

Mr. W. Moates was re-appointed auditor.

The question of subscribing towards the expenses in connection with the passing of the Stannaries Law Amendment Bill was then considered, the Chairman explaining that the proportion of this company would be about 10*l.* or 15*l.* It was agreed that the committee be authorised and empowered to deal with the question according to their discretion.

The CHAIRMAN next drew attention to the fact that the committee of Great Vor endeavoured to do all in their power to promote the moral and educational movement in Cornwall. Great Vor had established a school before this company was formed, the purser of the old mine having bequeathed a sum of money for that purpose; and this company were subscribers to the support of the school. The clergyman of the parish, who, as one of the trustees, attended very much to the school. He, however, had no house to live in near the schools, but efforts were being made individually and collectively to aid him in building one. He (the Chairman) had given him a private subscription, but had told him he could not promise anything on account of the Great Vor Mines.

It was agreed, upon the proposition of Mr. VANSITTART, seconded by Mr. J. O. HANSON, that the directors be empowered to subscribe 10 guineas.

A cordial vote of thanks was then passed to the Chairman for the manner in which he had presided upon the present occasion, and for the satisfactory and successful manner in which he had continued to conduct the company's affairs.

The CHAIRMAN, in acknowledgement, said he returned the shareholders his sincere thanks, but it would be superfluous to add anything to that which he had already stated. He could assure the shareholders that he fully esteemed their appreciation of his services. It was one of the bright spots in his life to think that he had given satisfaction to the shareholders of Great Wheal Vor, inasmuch as the administration of its affairs was one of the chief occupations of his life. All he, in conclusion, could say, was that his best efforts would continue to be directed to the further elicitation of the satisfaction of those associated with this great mining enterprise. (Hear, hear.)

The meeting then separated.

THE EBBW VALE STEEL, IRON, AND COAL COMPANY.

The annual general meeting of shareholders was held at the City Terminus Hotel, yesterday,—Mr. C. K. ANDERSON in the chair.

The report of the directors (which was taken as read) stated that the iron trade has partially revived from the extreme depression of the two previous years. The rail trade especially has felt this improvement, there having been more demand both for America and the Continent than last year, and the home railways have also come into the market rather more freely. The shareholders will notice that the mortgage for 150,000*l.* has been renewed, the directors considering this arrangement better than making a call to pay it off. The profits for the year are reduced by the sum of about 30,000*l.*, as the directors have carried out the principle adopted last year, of charging all additions and improvements to plant against revenue. At the same time, the works, plant, and machinery have been kept in thoroughly good working order. The net profits for the year amount to 71,424*l.* 14s. 11d., out of which the directors recommend a dividend of 10s. per share, free of income tax, which, in addition to the interim dividend of 7s. 6d. paid in January last, will leave a balance of 6259*l.* 2s. 5d. to be carried forward to the next account. Last year a sum of 90,194*l.* 13s. 8d. was reserved against doubtful debts; it is proposed to retain this amount undisturbed. The directors trust this reserved amount will be sufficient to meet any contingency. During the year these debts have been reduced by 14,625*l.* 11s. 2d.

The CHAIRMAN having stated that he met the shareholders upon the present occasion with greater pleasure than hitherto, referred to the improvement in the iron trade, and stated that, although the profits of the year would have been greater had the whole of the orders been taken at the improved prices, they were, however, now working upon orders at much better prices than those realised during last year. There had been a gradual improvement in the amount of dividends, having advanced from 5s. to 7s. 6d., and this year to 10s. per share; and had the coke and coal trade been in a better condition the profits would have been very much larger. The mortgage had been renewed, the board considering it more to the advantage of the company to renew that than to come upon the shareholders for a call. They had five years before them to pay off that amount, and his hope was that during that time the larger proportion would be liquidated, without calling upon the shareholders for further capital. The sundry creditors had been reduced by 92,000*l.*, and the stocks had been reduced from 420,000*l.* to 391,000*l.* The doubtful debts had been dealt with in the same way as last year. It was a very difficult thing to come to a conclusion as to the actual condition of this account. For example, they had received 14,625*l.* during the year, and since the account was made up a dividend had been received from one firm of nearly 4000*l.*, and there was another which he should be much disappointed if it did not realise 20s. in 1*l.* The reserve fund last year amounted to 70,000*l.*, to which had been added 20,000*l.* The profits of the year had been reduced by 30,000*l.* by additions to and improvement of plant, the whole of which was unquestionably a judicious expenditure, and as everything had to come out of revenue, shareholders might depend upon upon it that no unnecessary expenditure was incurred. A considerable part of the outlay had been on account of the steel-works, and they hoped to be able to meet in every way the increased demand that would, no doubt, arise in that branch of manufacture. They possessed a most excellent staff of officers and workmen, all of whom worked most efficiently and harmoniously under their most able managing director, Mr. Darby. The bills payable were small, which arose from the fact that they had as much as possible reduced everything to a cash basis; and he might add that, during the last and the previous years no bad debts worth mentioning had been incurred. All he, in conclusion, could say was that the position and prospects of the company were in every respect much better than they were last year; financially they were strong, and everything was going on well. Although he never liked to speak of the future, yet, if things continued to go on well, he thought he might promise a prosperous future. He then moved that the report and balance-sheet be received and adopted.

Mr. FRANCIS PHILLIPS seconded the proposition.

The CHAIRMAN, in reply to a question, stated that the 30,000*l.* expended upon additions and improvements had been independent of the expenditure incurred in keeping the plant in working order.

After some discussion the report and statement of accounts were received and adopted unanimously.

Upon the proposition of the CHAIRMAN, seconded by Mr. LONGSDON, a dividend of 10s. per share was declared.

Mr. CURTIS proposed the re-election of Mr. Abraham Darby, the managing director. The more he (Mr. Curtis) saw of Mr. Darby the more he was convinced that he was doing his utmost to promote the interests of the company.

Mr. GREEN seconded the proposition, which was put and carried unanimously.

Upon the proposition of Mr. LATHAM, seconded by Mr. MURRAY, the re-election of Mr. F. Turner as director was agreed to.

Upon the proposition of Mr. BOYLE, seconded by Mr. DICKENSON, the auditors

(Messrs. Cooper Brothers) were re-appointed.—A vote of thanks to the Chairman and directors concluded the proceedings.

ALMADA MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Winchester-buildings, City, on Wednesday,

Mr. WALTER SHAIRP in the chair.

Mr. H. G. DENNIS (secretary) read the notice convening the meeting.

The CHAIRMAN remarked that the shareholders were aware that this was the first meeting of the company, and that it was held in accordance with the Act of Parliament, which said that it should be held within four months of the date of constitution of the company. They had deferred calling the shareholders together until the latest day, in the hope that they would have had some information from the mine, but none had yet been received. All the directors could tell them to-day was that at the date of their last advices Mr. Power was at San Francisco with Mr. Bridge, who had accompanied him, in order to examine the property, to see that the reports which they had received respecting it were confirmed. This being done, Mr. Power had full authority to complete the purchase. Of the 6000 shares which had been issued, 4000 were taken by the vendors, and 2000 had been subscribed for by the public, so that 1500 shares remained to be subscribed for. He was glad to say that nothing more would be required until they had to erect reduction-works. As soon as information is received from the mine, it will be made known to the shareholders.

Mr. YOUNG understood that they were just in the same position as at the date of the issue of the prospectus; it would depend upon the report of Mr. Bridges whether the purchase would be completed by Mr. Power.

The CHAIRMAN said that it would be competent for Mr. Power to refuse to complete the purchase if the property was not equal to the representations.

Mr. J. PETHERICK said that Mr. Power was authorised to conclude the purchase if Mr. Bridge corroborated the reports which they had had of the property.

The CHAIRMAN stated that Mr. Clemes was expected to return to England in the course of next week from New York, when he would be able to give the shareholders all required information.

Mr. H. HEATH observed that the lowest average of the ore from the company's mine was 50 ozs. to the ton, which is higher than the yield of the mines of all Mexico. Usually the yield of the ores was from 32 to 34 ozs. per ton, and the ores were brought from 10 to 20 miles to be treated, and then left more than the maquila.——Mr. PETHERICK, in reply to a shareholder, stated that Mr. Bridge would, probably, be on the mine by June 10, and the inspection of the property would occupy about two days. It was possible to have received a telegram already, but it must be remembered that it might take three weeks from Guyamas to San Francisco, which was the nearest point from which the telegram could be received. The lode is represented to be 40 ft. wide, and the ore worth $50 per ton, which would give an enormous return. As to the extent to which the mine had been worked, he might state that at Guanaxuato a shaft had been sunk 700 varas deep, whilst the deepest on the mines was 80 fms.

Messrs. Sharp, Heath, Marshall, Price, and Hockin were re-elected directors, and Messrs. Waddell and Co. auditors; and thanks having been voted to the Chairman, the proceedings terminated.

JAVALI COMPANY (Limited).—Shareholders had been informed by special circular that the managing director of the Javali Mine, who had just returned from Nicaragua, would attend a merely formal meeting of the Central American Association, to be held on June 18, at the offices, Westminster Chambers; and this would give them an opportunity of learning the latest news from their mine, a formal meeting legally requiring longer notice than on this occasion could be given. A great number of shareholders had taken advantage of this invitation, and Dr. Seemann, on rising to address them, was cordially cheered. He gave a full account of all he had done at the Javali from his arrival there in November last till his departure on May 12. He found things not quite so forward as he had hoped to do, and spared no effort to put the whole mine and mill in proper working order. After due consultation with the other officers, he dispatched Mr. Simpson to San Francisco to purchase amalgamators and all that was necessary to complete the mill and provide for the utilisation of the tailings. Mr. Simpson started two days after Dr. Seemann's arrival; and, though every dispatch was used to get the Californian machinery to the mine, it having to be transhipped four times, and carried on carts and mules in two different parts of the road, the last pieces were not delivered until the beginning of May. This additional machinery included a provision for saving the silver, which up to this time had not been dealt with. The mill had to be stopped in order to put the turbine down, alter the height of the main shaft and the relay, and lower the water-pipes. Mr. Simpson hoped that the mill would be able to start about June 1. Owing to the breaking of the large turbine at an early date the 20 stamps had never yet been at work properly. On the average a stamp would reduce 2 tons of ore per diem. Even without the amalgamators now arrived ½ oz. of gold per ton had been obtained. All the tailings of last season had been saved, and would be worked now. At present a ton of ore costs the company, including extraction, carriage, crushing, wear and tear of plant, officers' salary, &c., 11s. This had been carefully calculated, and would be found to be borne out by the cost-sheet. The principal development expenses were all paid for. The tunnels had now touched the Nispero and Socorro, and by means of them these workings communicated direct with the mill. There were formerly 80 to 100 men carrying ore on this mine; now there were about 10; and so convenient was the arrangement that one of the Hartz miners had, with his own hands, loaded, trammed out to the mill, and unloaded 35 tons of ore in one day, between the hours of 7 and 12 o'clock. This, of course, was an extraordinary effort on the part of the man, but 18 tons a day he could supply, and often did supply, under these conditions. The water-course had been put in order, the store-houses, dwelling-houses, and fences all completed, and the property rendered in every way more secure. Some additional timber land had been purchased, so that the land now formed a vast estate. The books had been put in good business-like order, and no payments, however small, were made without the sanction of the manager, or without a special receipt being given. When coming away, in May last, he left everything in the mine in proper working order. Capt. Johns, now in charge, was a first-class miner, and so was his foreman, Mr. Martin; Mr. Simpson a good engineer, and Mr. Nicholson an able and conscientious cashier and book-keeper. The Javali had never been in a better position than it was now, or had things ever looked more hopeful; and he should feel much disappointed (for he was a large shareholder himself) if there were not a good dividend this year. All mining property in Nicaragua had now become much more valuable by the abolition of the old Mexican Mining Code, which allowed undue interference on the part of native authorities; now mines could be worked in the most approved fashion, and he claims some credit for having assisted in carrying the new law through Congress. The President, and all the Ministers in Nicaragua, had lately visited the mines, and expressed themselves highly gratified with the progress made. Dr. Seemann said that he was on friendly terms with all the authorities, and cultivated a good understanding with the Chontales Company's officers, whose zeal and foresight would, ere long, be as generally appreciated by the public as it was at present by the far-seeing few. A vote of thanks to Dr. Seemann for the energy, tact, and zeal he had displayed, and the satisfactory way in which he had explained all he had done to put the property in a sound working condition, concluded the proceedings.

MINING BY MACHINERY—POWER CONSUMED BY DRILLS.

Considerable interest attaching at the present time to the subject of machine drilling, practical experiments for the purpose of ascertaining the conditions under which drilling can be carried on most economically are of great value. In Van Nostrand's "Eclectic Engineering Magazine" there is an admirable article on Prof. Clarinoal's report of experiments in this direction. The experiments were made in wrought-iron and in steel, and were conducted with an ordinary drill press, while the power consumed was measured by Morin's dynamometer. The wrought-irons used in the experiment were a very hard variety, forged under the steam-hammer at the forges at Montigny-les-Metz, and a soft rolled iron from the iron works at Abainville. The drills used were centre-bits and a flat drill of exactly equal diameter, driven at the same speed, and lubricated with oil and afterwards with soap-suds. Cast-iron, bronze, and steel, were then similarly experimented upon. The amount of power necessary to drill with a centre-bit into wrought iron remains quite constant so long as the depth of the hole does not exceed 0·05 meter; as soon as this limit is passed the required power increases rapidly. The power consumed in boring across the fibres is almost independent of the depth of the hole; the original power is, however, somewhat greater than that required to drill in the other direction. Since, however, the power required in boring in the latter direction increases greatly with the depth, the total power required to bore a given hole across is much less than that required to bore it in the direction of the fibres. The power required to bore a hole of a given diameter increases with the hardness of the iron. The use of oil to lubricate the drill diminished the power required about 0·2, as compared with that required when soap-suds were used. This holds good as well in hard as in soft wrought-iron. The results obtained with centre-bits hold good also for flat drills, but it was found that the latter required a greater power than the former. Thus, the power required by a flat drill, 0·025 meter in diameter, to bore a hole in the direction of the fibre, is about 1·25 times as great as that required by a centre-bit of similar diameter operating under similar circumstances. The power required by a flat drill, 0·025 meter in diameter, to bore across the fibres, is about 1·4 times as much as that required under similar circumstances by a centre-bit. When the diameter of the drills is 0·015 meter, the above quantities become 1·6 and 1·8 respectively, which seems to show that small drills require a comparatively greater power than large ones. When the diameter of the drills is 0·008 meter, the above proportion becomes 1·52, which corroborates the above conclusion. These results agree with practice, since the flat drill is commonly used only for holes 0·008 meter in diameter, and under, which do not permit the use of the centre-bit or pin drill.

With a view to ascertain the effect of the velocity of the drill, a drill of 0·025 meter was driven at a speed (on its circumference) of 0·22 meter per second, and also at a speed of 0·125 meter. The power consumed per second is clearly less at a slow speed than at a high one, but the power required to bore a given hole is about the same in each case. For instance, the power required to bore a hole 0·0074 meter deep (in the direction of the fibres) at a speed of 0·22 meter, amounted to 23·49 meter kilogrammes, and to 21·8 at a speed of 0·125 meter; across the fibres, the power required at the high speed was 24·3 meter kilogrammes, and 22·8 at the low speed. It appears, then, that the power required to drive the drill at either speed is not very materially different. Hence, the reporter concludes that the speed of the drill should be as great as possible, to diminish the resistance offered by the metal, and that the feed should be heavy, and both so far as possible without destroying the edge or boring too rough a hole. The average advisable circumference speed of drills is 0·12 meter per second in wrought-iron, 0·06 meter in cast-iron, and 0·15 to 0·18 in bronze (gun metal). When these velocities are exceeded the drill is apt to become soft, and when they are not reached the work is not economical.

The importance of studying the shape of the drill was very apparent. A comparison of results obtained with borers of both kinds of the same diameter (0·25 meter) shows that the power required to drive a flat drill in cast-iron is 2·6 times as much as that required to drive a centre-bit. Experiments on hard white cast-iron showed that the power required to drill such iron was very nearly double that stated for grey cast-iron. It appears from the tables that the power required to drill cast-iron is nearly constant, no matter what the depth of the hole may be. The experiments made on steel showed that, under similar circumstances, more power was required to drill shear or soft steel than to drill cast-steel, and that flat drills increased the power necessary by at least one-third. The general conclusions to be drawn from the experiments are that nearly the same power is required to drill hard wrought-iron and hard cast-steel, and that the power required to bore soft steel is not much greater than that required for hard wrought-iron, but the former increases rapidly with the depth of the hole. Thus, at a depth of five or six millimeters the power consumed in drilling with soap-suds in soft steel a hole 15 millimeters in diameter is equal to that consumed in boring one of 25 millimeters in diameter in hard wrought-iron. Of course, these experiments would not be exactly applicable in determining the most economic mode of dealing with granite or clay-slate, but they suffice to show the character of information required, and afford some valuable hints in connection with the subject.

MINERAL WEALTH OF ST. DOMINGO.—According to a report which has just been prepared by Prof. Gubb, State Geologist of Santo Domingo, the country is extremely rich in gold deposits. The Professor has recently prospected 200 miles of gold-bearing territory, and he announces as the result of his researches that Santo Domingo has gold fields surpassing in richness any known portion of California or Australia. Whether this is an exaggeration or not is yet to be seen; but it is certainly supported by the unanimous testimony of writers upon the mineral resources of the island for more than three centuries past, one of whom—the author of the "Gold Fields of Santo Domingo"—says: "If we carefully examine all the histories now extant and accessible of the colony during its prosperous mining years, and attentively consider the geological and topographical characteristics of the island, we cannot fail to be duly impressed with the fact that the island of Santo Domingo is one immense gold field from one extremity to the other." Adding, "There is scarcely a district of any extent, or a mountain of any magnitude, where gold has not been and is not now found; and so far from its auriferous resources having been exhausted by the Spaniards, they have scarcely began to be developed." The historian Herrera tells us that during one period of the Spanish occupation of the island there was a mint at Buenaventura which coined from $225,000 to $230,000 per annum, and another at La Vega which coined from $230,000 to $240,000 per annum; and in the early part of the sixteenth century the gold mines of Ciabao, in the central part of the island, were very productive. Specimens of rich silver ore have also been taken out on the Peninsula of Samara, and there is a copper region on the south side of the island which is said to be as promising as the rich copper district on the south side of Cuba. Besides these, immense beds of coal have been discovered in the Bay of Samana, and zinc, antimony, lead, and native iron have been found in many places.

THE QUICKEST ROUTE FROM ENGLAND TO CALIFORNIA.—A correspondent writes—"Having just made the tour from California *via* the Rocky Mountain route, the Pacific Railway, and as the opening of this route is attracting travel to it, we ask of you a short space to show the quickest route from England through to California, and that is *via* the Canadian route from Liverpool to Quebec and Montreal, and thence by the Grand Trunk Railway through Canada to Detroit, Michigan; thence by the Southern Michigan Railway to Chicago; thence by the Chicago, Rock Island, and Pacific Railway for Omaha, at which point you take the Union Pacific Railway carriages for the end of its track at Promontory Point, and thence the Central Pacific Railway carriages for Sacramento, California. The distance from Omaha to Sacramento is 1776 miles; from Sacramento to San Francisco, 120 miles by water. The Chicago and other western papers have lately had their eyes opened as to the Canadian route, it being the direct one from England; and the Chicago journals of late assert that by means of the Montreal ocean steamers and the Canadian Railway the trip is soon to be accomplished between England and Chicago in ten days. That being so, then San Francisco, *via* the Canadian route, will be reached in sixteen days, or less, from England. The time through now, as it is performed at this time, is about thus:—Leaving England on Thursday for Montreal, on the following Monday week the passenger is on the Grand Trunk Railway train *en route* west; Wednesday morning finds him at Detroit, Michigan; the same night in Chicago; Thursday afternoon at Omaha; Sunday at the end of the Union Pacific; and Tuesday night will place him in San Francisco, California, in some 18 days from England. This time can be made, and that only, by the Canadian route."

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

GWYNFYNYDD GOLD MINES (near Dolgelly).—The forty-two experiments undertaken by Prof. Collett are now concluded. They consisted of samples, of 1 cwt. each, taken from all parts of the lodes, weighing in the aggregate 2 tons. The produce has been 1 oz. 15 dwts., being an average of 17 dwts. 12 grs. per ton. All specimens showing visible gold were excluded. This is a most satisfactory result, as the total cost of raising, carting, and crushing the quartz will not exceed 2 dwts. per ton when the new machinery is at work. Prof. Collett has since been trying the refuse copper and gossans at Ffryddcochuschaf Mine, which yield fully 10 dwts. per ton by means of his new process. As this mine is held by a few enterprising capitalists in Dolgelly, the discovery has caused no little excitement in the neighbourhood; and as the question is of the greatest interest as regards all the abandoned copper, lead, and sulphur mines in the auriferous district of Merionethshire, we hope next week to furnish additional particulars. In the meantime, Prof. Collett is willing to show and explain his process to any person visiting the Gwynfynydd works.

HOLMBUSH AND KELLY BRAY UNITED.—The lead lode cut has greatly improved during the past week, and bids fair to become of great value, and considerably increase the demand for shares in this property, which it can boast of having accomplished, without calling up a shilling of capital, more, probably, than any other mine in Cornwall—that of making dividends, while erecting a powerful engine and all the requisites for draining extensive workings, out of the returns of ores from about the adit level in a part of the sett which was considered of little value when the works were commenced.

NEW GREAT CONSOLS.—As the shareholders in this mine are invited to expend another 5000*l.* upon it by the issue of 5000 new shares, I had hoped that the suggestion thrown out in a late number of the Journal would have been acted on, and that some intimation would have appeared to the effect that the directors had appointed some independent authority to inspect and report upon the concern. Another drawback to the mine appears to be the non-publication of the sales of copper ore that are made, for publicity is the very life of mining.

PRINCESS OF WALES.—The extraordinary good indications of this young mine have often been noticed; it is now said that the ground in the shaft below the 30 is of the most assuring character, and being only a few feet from the lode, the general opinion is that a fine course of ore will soon be reached.

PROSPER UNITED MINES.—We are informed that there is every prospect of a large number of shares being taken up in the neighbourhood of the mine, and by some of the most wealthy capitalists in the western part of Cornwall. We are also informed that the mine will be able soon to pay its way by an economical development. But few, if any, mines in Cornwall possess a finer stock of engines or machinery.

WEST WHEAL SETON (Camborne).—The first operations on this mine took place in May, 1844, in a piece of virgin ground (except that an adit had been driven through it into another mine), but many were the doubts expressed by parties who were supposed to be judges in such matters as to the ultimate success of the undertaking; many strong reasons were given why this mine should not become profitable, and the reverse. However, one great point was gained—the mine started with, perhaps, as good a company of adventurers as ever graced the first pages of a cost-book, the large adventurers being almost all men of very ample means and of real pluck, so that this mine was never under pecuniary difficulties. After an outlay of over 11,000*l.*, the first sale of copper ore was made; this took place on Oct. 12, 1848, and, after a further outlay of 8000*l.*, the first dividend was declared on Aug. 8, 1854; and from that time down to the present, now 15 years, it has paid 90 dividends, amounting to 209,000*l.*—being equal to 522*l.* 10s. per share, or a clear profit, after deducting the 19,000*l.*, the original outlay, of 475*l.* per share. These dividends have arisen from the sales of—

Copper ores (90,994 tons 17 cwts.)	£552,350	11	9			
Tin ores (226 tons 9 cwts. 3 qrs. 20 lbs.)..	13,133	17	3			
Arsenic	735	12	7	= £566,220	1	7
Out of which the lord has been paid				37,747	2	4
Leaving				£528,472	19	3
The labour cost and merchants' bills from May, 1844, to end of April, 1869, both inclusive, have been				337,414	9	8
Net profit, with the plant on the mine in addition ..				£191,058	9	7
The dividends declared have been	£209,000	0	0			
Less the original outlay of	19,000	0	0 =	190,000	0	0
Credit balance per cost-book				£ 1,058	9	7

In the past year the dividends have been 13,200*l.*, and this in the face of a continuously declining standard since April 2, 1868, which has affected us in the course of the year on the sale of 512 tons of metal nearly 5000*l.*; and if I add to this the last two sales, which are to come to the credit of the next account, on a further quantity of 86 tons, it has made a difference to us of over 6000*l.*, being on an average over 10*l.* per ton; but I cannot believe that the present low price for copper can continue much longer, and it is my opinion that neither the foreign nor the English miner can produce copper to sell at the present price. We must not look at the gloomy side, but cheer ourselves with the hope of a better price for copper; and as the prospects of the mine still continue very good, we may look with confidence to another prosperous year, and perhaps to years of prosperity, as our prospects are better now than they were when the first 1000*l.* was divided.—B. MATTHEWS, Purser.

STATISTICS OF WELSH SLATE.—The most recent accurate records we can obtain of the output, &c., of the various Welsh slate quarries in the following districts date back about two years, and may be put into a condensed form, as follows:—Probable number of men, Festiniog vein, 2900; others surrounding, and Penrhyn vein, 2500; others surrounding, and Llanberis vein, 2000; others surrounding, and Nantlle vein, 1300; others surrounding, and on the Corris vein, 700: total, 9400. This number of men includes shippers, men on new works, and all at the quarries or dependent on quarrying on the three veins named and adjoining. Produce of Festiniog vein, 98,000 tons; other surrounding quarries, and Penrhyn vein, 109,000 tons; other quarries, and Llanberis vein, 75,000 tons; other quarries, and Nantlle vein, 40,000 tons; other quarries, and Corris vein, 20,000; total, 342,000 tons. Places of shipment, Port Madoc, Bangor, Port Dinorwic, Carnarvon, and Aberdovey. Representing, in money value, about 865,000*l.*—*Engineer.*

The Tower Subway has now passed the nearest approach to the bed of the river, the top of the tunnel being 23 ft. below the bed, and the engineer, Mr. Peter W. Barlow, jun., reports that at the present rate of progress the tunnel will reach high-water mark on the Surrey side in 10 weeks. The ground, it is said, is so dry that the New River Company's water laid on the works has to be taken from the shafts for the cement used in the tunnel. Air is supplied to the men by a steam-engine at the shafts. Communications between the men at the face of the works and the top of the shafts is effected by an electric telegraph laid down for that purpose.

HOLLOWAY'S OINTMENT AND PILLS.—A frequent cause of gout and rheumatism is the inflammatory state of the blood, attended with bad digestion and general debility. A few doses of these pills, taken in time, are an effectual preventive against gout and rheumatism. Anyone who has an attack of either should use Holloway's ointment also; the powerful properties of which combined with the effect of the pills must infallibly effect a cure. These pills act directly on the blood, which they purify and improve. Having subdued the severity of these diseases, perseverance with the ointment, after fomenting the affected joints with warm brine, will speedily relax all stiffness and prevent any permanent contraction.

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THE IRON TRADE REVIEW.—The Iron Trade Review is now recognised as the leading organ in which the interests of the iron manufacturers of Great Britain are represented. The aim of the proprietors is to provide a journal which shall be worthy of this important branch of national industry. The following matters receive special attention:—Detailed reports of the state of trade in all the important manufacturing districts, with latest intelligence of meetings, and price lists of pig and finished iron. Occasional notices of the Continental and American trades. Condensed information relative to the proceedings of railways and other public companies which have a bearing upon the iron trade. Notices of scientific improvements applicable to the manufacture of iron. Reports on such labour questions as may arise. Notes on Parliamentary Bills bearing on the trade. In addition to the above, leading articles on important topics appear in each issue, and great care is taken that the information contained in the Review shall be thoroughly reliable. The annual subscription is one guinea, payable in advance. Advertisements are inserted on reasonable terms, which may be ascertained on application.—Published or the proprietors, at the Iron Trade Review office, Middlesbrough-on-Tees; and 50, Grey-street, Newcastle-on-Tyne, by M. and M. W. Lambert, printers.

The Battle Mountain Mining Company,

NEVADA, U.S. (LIMITED),

TO BE INCORPORATED UNDER THE COMPANIES ACTS, 1862 AND 1867.

CAPITAL £50,000, IN 10,000 SHARES OF £5 EACH.

£1 per share on application, and £2 on allotment. No call to be made at a less interval than three months, or to exceed 10s. per share. When no allotment is made deposit to be returned in full.

DIRECTORS.

JAMES HALLOWS, Esq., Runcorn Smelting Company, Ditton, and Cook-street, Liverpool.
FREDERICK JAMES, Esq., Egremont, Cheshire.
JOHN ROACH, Esq., Metal Broker, Sweeting-street, Liverpool.
ALEXANDER HATHORN, Esq., Smeathalls, Yorkshire.
JAMES E. BAUGH, Esq., Plas Penyddole, Bersham, Wrexham.

BANKERS—ALLIANCE BANK (Limited), Liverpool, London, and Manchester.
SOLICITORS—Messrs. ANDERSON AND COLLINS, Brunswick-street, Liverpool.
BROKERS—JOHN ARELLANO HALL, Roscoe Chambers, 20, Tithebarn-street, Liverpool.
AMBROSE SMITH, 5, Angel-court, Throgmorton-street, London.
SECRETARY—W. A. BOND, Jun.
CONSULTING ENGINEER—Capt. NANCARROW, 16, Castle-street, Liverpool.
AUDITORS—JOHN BEWLEY AND SON, Brown's-buildings, Liverpool.

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PROSPECTUS.

This company has been formed for the purpose of purchasing the Battle Mountain Copper Mines upon the following terms, viz.:—£10,000 in cash and bills, and £18,000 in paid-up stock of the company, £8000 of which stock will be allotted amongst the promoters of the company for their risks, expenses, and outlay, according to an existing agreement to that effect with the vendors.

The directors will take power in the Articles of Association to purchase any other eligible mining property in Nevada, subject to shareholders' consent being obtained at a general meeting.

The Articles of Association may be seen at the offices of the company, together with original reports, title deeds, and samples of the ore.

It is expected that £3 per share called up will fully develope this property, and that no further calls will be required in respect to this mine.

The State of Nevada, though only prospected within the last two or three years is still every day giving evidence of its great richness in mineral wealth, especially in silver and copper, though this last-mentioned ore has not been available for any practical purpose until within the last twelve months, in consequence of there being no fuel for smelting to be obtained there, and no economical, or indeed practicable, method of transport to the shipping ports—San Francisco or Vallejo. It would have involved too great an expense in land carriage to admit of the ores being sent to a quarter of the United States, where coal is in abundance and quality sufficient for smelting purposes. Indeed, it being all carbonates and oxides, and not impregnated with sulphur, the absence of other ores to mix with it would have prevented the desired effect being attained, thus leaving no option but that of sending the ore to England.

Now the difficulty is entirely overcome by the completion of the Central Pacific Railway through the district in which the Battle Mountain Mines are situate, within only ten miles of easy cartage from the property.

Captain Nancarrow, the well-known mining engineer, was sent out by the promoters for the purpose of inspecting the property, and ascertaining the cost of getting and transmitting the ore to England.

The following is his report:—

16, *Castle-street, Liverpool, Jan.* 21, 1869.—In accordance with your request, I have visited and carefully inspected the Battle Mountain Copper Mine, situate in Humboldt county, State of Nevada, United States. The mining sett is very large and contains no less than eleven allotments, having longitudinally 17,600 ft. There are several veins in the property, all having a bearing east of north and west of south, with an inclination of from 2 to 3 feet per fathom. The stratum in which the lodes are embedded is a soft porphyry, and very congenial for copper. The ore is a rich red oxide and green carbonate, and is cropping out all over the hill—in fact, ore may be obtained at once in a score of places, not only where the veins are opened but on the surface; and I think that as soon as men are put to work a hundred tons of ore per month can be raised and sent to the railway station, and as the work proceeds naturally the returns will also increase. There will be no machinery required for some years, and the principal portion of the outlay will be in men's wages, clearing and getting the ore until the mine gets below the water level, and when that does occur there is a fine stream of water a short distance off, which is also part of the property, and is of inestimable value, as it can for a very trifling cost be brought to bear upon the mines. I have broken out from different parts of the hill a considerable number of the samples, which I now lay before you, and, as the general quality of the ore in the different veins is similar, I will content myself with simply stating this, and leave the different assayers here to give you further information, which their tests will do, as to the very great value of the property which you possess.

JAMES NANCARROW, Consulting Mining Engineer, Liverpool.

The ore has since been assayed, and resulted thus:—

Red oxide—No. 1	50¼ per cent.
Green carbonate—No. 2	40½ ,,

This shows an excellent product, and considerably over the standard at which the estimates herewith are taken—say, at 30 per cent., such ore is now worth in England per ton in bulk £20 0 0

Cost of getting ore	Per ton..	£1	0	0
,, from mine to rail in wagons		1	0	0
,, railway carriage to Vallejo		1	0	0
,, freight to England, average the year round		3	10	0
,, crushing and working		1	0	0
,, incidentals and sundries, comprising commissions, shipping, brokerage, insurance, accidents, &c., &c.		2	10	0 = £10 0 0
Showing a net profit of 100 per cent.				£10 0 0

The above shows not only the value of the mine, but what is also of as great importance—the small cost of getting the ore and transmitting it to this country.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Battle Mountain Mining Company (Limited).

GENTLEMEN,—Having paid to your bankers, the Alliance Bank, the sum of £ , being a deposit of £1 per share on shares in the above company, I hereby request that you will allot me that number of shares; and I agree to accept such shares or any smaller number that may be allotted me, and to become a member of the company in respect thereof, subject to the regulations of the company; and I also agree to pay the further deposit of £2 per share on allotment, in accordance with the terms of the Letter of Allotment; and I authorise you to enter my name on the Register of Shareholders for the shares so allotted.

Name in full .....
Residence .....
Profession or business .....
Date .....

The Battle Mountain Mining Company,

NEVADA, U.S., (LIMITED),

TO BE INCORPORATED UNDER THE COMPANIES ACTS, 1862 AND 1867.

CAPITAL £50,000, IN 10,000 SHARES OF £5 EACH.

£1 per share on application, and £2 on allotment. No call can be made at a less interval than three months, or to exceed 10s. per share. When no allotment is made deposit to be returned in full.

The Directors of this Company beg to give notice that NO APPLICATION FOR SHARES will be RECEIVED after SATURDAY, the 10th July proximo.

W. A. BOND, Jun., Secretary, 15, Hargreaves-buildings, Liverpool.

WATSON BROTHERS' MINING CIRCULAR

WATSON BROTHERS,

MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS return their most sincere thanks for the great patronage bestowed and confidence reposed in their firm for 25 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS, they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to *recommend* mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge or commission.

SATURDAY.—Market quiet. East Caradon, Grenville, and East Lovell in demand. Chiverton Moor receded to 3¼, sellers. East Caradon, 7¼ to 7⅛; Grenville, 53s. to 55s.; East Lovell, 10½ to 11; Chiverton Moor, 3 to 3¼; Frontino, 24s. to 26s.; Great Vor, 15 to 15½; Prince of Wales, 24s. to 25s.; Rosewall Hill, 28s. to 30s.; West Seton, 180 to 185; New Lovell, 35s. to 40s.; Uny, 3⅞ to 4; Van Consols, 2½ to 3⅛; Buller, 14 to 16; Tincroft, 16 to 17; Chontales, 25s. to 30s.; Don Pedro, 4⅜ to 4⅞.

MONDAY.—With the exception of a slight demand for East Caradon, the market is very quiet. Chiverton Moor flat, at 3 sellers. East Caradon, 7¼ to 7⅜; Chiverton Moor, 2¾ to 3; East Lovell, 10½ to 11; Great Laxey, 18⅛ to 19⅛; Buller, 12½ to 15; Grenville, 53s. to 55s.; Uny, 3½ to 3¾; Providence, 35 to 37; Frontino, 25s. to 26s.; Prince of Wales, 23s. to 25s.; West Chiverton, 46½ to 47⅛; Chiverton, 3⅛ to 3¾.

TUESDAY.—Market very dull, and prices in most cases nominal. West Chiverton, 46⅛ to 47⅛; West Frances, 51 to 53; Grenville, 53s. to 55s.; East Caradon, 7⅛ to 7⅜; Chiverton Moor, 2¾ to 3; Great Laxey, 18⅛ to 19; Great Vor, 15 to 15⅛; Chiverton, 3⅛ to 3¾; Uny, 3⅝ to 3⅞; Prince of Wales, 23s. 6d. to 25s. 6d.; Van Consols, 2¾ to 3⅛; Frontino, 24s. to 26s.; East Lovell, 10½ to 11; Chontales, 25s. to 30s.; Don Pedro, 4⅜ to 4⅝.

WEDNESDAY.—Market very quiet, and prices about the same as yesterday. Great Vor, 14¾ to 15⅛ (cum div. 10s.); Grenville, 52s. to 54s.; Roswall Hill and Ransom, 27s. to 29s.; Providence, 35 to 37; Van Consols, 2¾ to 3⅛; Frontino, 25s. to 27s.; Chontales, 25s. to 30s.; West Chiverton, 46 to 47; West Frances, 51 to 53; East Lovell, 10 to 11; East Caradon, 7¾ to 8.

THURSDAY.—Market very inactive, and prices almost nominal. Seton, 170 to 180, ex div. North Treskerby, 12s. 6d. to 15s. 6d.; Herodsfoot, 43 to 45; Chiverton, 3¼ to 3⅛; Grenville, 51s. to 53s.; East Lovell, 10 to 11; Great Wheal Vor, 15 to 15⅛ (cum div.); East Caradon, 7⅜ to 7¾; Uny, 3⅛ to 3¾; West Chiverton, 46 to 47; Prince of Wales, 23s. to 25s.; New Lovell, 34s. to 36s.; Chontales, 25s. to 30s.; Don Pedro, 4⅜ to 4⅝; Van Consols, 2¾ to 3⅛.

FRIDAY.—Market again quiet. East Lovell, West Chiverton, Prince of Wales, and Great Vor chiefly dealt in. Great Vor, 14⅛ to 15 (cum div.); East Lovell, 10¼ to 10½; West Chiverton, 46 to 47; Prince of Wales, 23s. to 25s.; Frontino, 24s. to 26s.; South Condurrow, 27s. 6d. to 30s.; Grenville, 51s. to 53s.; Van Consols, 2¾ to 3⅛; Drake Walls, 16s. to 17s.; East Caradon, 7⅛ to 7¾.

Mining Correspondence.

BRITISH MINES.

BLUE HILLS.—S. Bennetts, A. Gripe, June 19: The masonry of engine-house is proceeding rapidly, and the bob end up this week. The shaftmen have all but completed cutting ground for cistern plat and plunger pole at the 30, and are now engaged in hauling the stuff accumulated in doing this work, after which the bearers will be put in, and all got ready for fixing the plunger lift.—Poulyear Shaft: The 13 east is cleared 55 fms. from shaft; the level is still choked full of mud, and at present point there is not much stulls above the level.—Penhall's or Claridge's Lode: We have this week cleared the adit shafts and level east on this lode, and shall forthwith extend this drivage for the purpose of communicating with the new shaft, to be here sunk from surface, for the intersection of all the lodes on the north and parallel with the Blue Hills Mine workings. The foundations also for the stamping and drawing engine are being got out, and all surface work generally is doing well.

BRONFLOYD.—T. Kemp, June 23: No. 3 Shaft—North Lode: The shaftmen will have everything in complete order to commence to-morrow sinking this shaft from the 73 to the 84, under the bargain set May 19, to sink it through, cut plat, &c., for 250l. The lode to the west of cross-cut, in the 73, is worth about 35 cwts. of ore per cubic fathom. The lode to the east of cross-cut, going back towards the winze, is about the same value—35 cwts. of ore per cubic fathom. The lode to west of cross-cut, in the 62, is worth 1¼ ton of ore per cubic fathom. The stope under the 52 is worth 2 tons of ore per cubic fathom. The stope to the west of winze, in back of the 52, is producing 1 ton of ore per cubic fathom. We are getting on with the erection of the machinery in the Church property.

CALDBECK FELLS.—P. Hawke, R. Trevarthen, T. Lamb, June 18: We have 7 fms. more to sink to complete Sainton's engine-shaft 20 fms. below the deep adit, and we hope to accomplish the same in one month from our next setting, on the 25th inst. The 90 east, on north lode, is worth 12 cwts. of blue lead per fathom. The stope in back of this level is worth for blue lead and copper ore 16 cwts. per fathom. The stope west of rise, in back of the 90 west, on north lode, is worth 12 cwts. of blue lead per fathom. The stope in back of same level, east of rise, is worth 3½ tons of blue lead and copper ore per fathom. The 80 west, on north lode, is worth 18 cwts. of blue lead per fathom. We have three stopes working in bottom of the 80 west, on north lode, east of rise, worth as follows:—No. 1 stope, 1½ ton of blue lead per fathom; No. 2 stope, 17 cwts. of blue lead per fathom; No. 3 stope, 18 cwts. of blue lead per fathom.—Tribute Department: Two pitches in back of the 90 east, on south lode, worth in the aggregate for coloured ores 1 ton 7 cwts. per fathom. Six pitches in back of the 30 west, on the south lode, worth in the aggregate for coloured ores 4 tons 6 cwts. per fathom.—Crown Point: Two pitches in back of the 50 east, on south lode, worth respectively 17 and 10 cwts.—27 cwts. of coloured ores per fathom. The pitch in bottom of the 90 east, on south lode, is worth 18 cwts. of coloured ore per fathom, but the influx of water from the lode at present is such that we are unable to prosecute this point in depth. The 90 east, on south lode, is composed chiefly of quartz and gossan. We have throughout the mine ten pitches working, by 22 men, at an average tribute of 2l. 11s. 6d. per ton of dressed lead ore. On the 9th inst. we sold three parcels of lead ore:—No. 1 parcel, 23 tons 9½ cwts., at 14l. per ton; No. 2 parcel, 8 tons 17 cwts., at 12l. 18s. 6d. per ton; No. 3 parcel, 15 tons, at 10l. 2s. 6d. per ton; and on the 8th inst. we sold two parcels of copper ore:—No. 1 parcel, 2 tons 8½ cwts., at 19l. 6s. 6d. per ton; No. 2 parcel, 3 tons 2¼ cwts., at 7l. 8s. 6d. per ton. We expect our next sampling to be 55 tons of lead and about 15 tons of copper ore.

CAPE CORNWALL.—R. Pryor, J. Davey, June 22: The appearance and character of the ground in the 70 cross-cut south is such as to induce us to think that we are near the lode. The ground in the 100 cross-cut, north of shaft, is just the same as when last reported on.

CARADON CONSOLS.—S. Bennetts, June 22: There has been scarcely any lode broken in the 78 west since last reported on, and consequently very little change visible. During the past few days the water in the north cross-cut has very much increased, and all issuing from the upper part of the end; the sparry branches which have been just passed are become quite dry; this looks as if a somewhat loose lode is near at hand, as no such stream of water was seen in any part of the cross-cut in the level over. The ground in the shaft is slightly harder, but not sufficient to impede progress much.

CASHWELL.—John Peart, June 19: The drift below Scar limestone is very much changed; instead of being hard and poor, it is soft and easy to work, and will not cost half the price to drive it; the vein is 4¼ ft. wide, and yields a fair amount of ore. I have not seen a better mine in this drift since we commenced to drive east; and this being the furthest forward in new ground makes it more valuable. No. 1 stope, in Scar limestone, is still producing very good ore, and looks very like carrying up to the top of the limestone. The drift is Slaty hazle is very hard, but we have a nice vein and some ore; the low part of the hazle where we are driving is generally poor, but we expect more ore when we get higher up into the sill. At Dauke's there is no change; we are driving by the side of the vein, as we can make a much better level: 40 tons of lead ore were sold to Messrs. Jacob Walton and Co., Bollihope Lead Works, on the 11th inst., at 12l. 16s. 10½d. per ton.

CHANTICLEER.—Wm. Wasley, June 24: Since my last report I have stopped sinking the shaft below the 110 yard level, and put the men to drive west of the shaft, where the ground is rather hard for driving, but which I hope will improve after we drive a little further on; the lode is about 2 ft. wide, composed of spar, and clay, with ore mixed all through it. We are busy dressing a lot of ore, which will be ready for sale about the middle of next week.

CHIVERTON MOOR.—G. F. Tremayne, W. Bennetts, June 23: The sinking of the engine-shaft below the 85 is progressing favourably. In the 85 west the lode is 4 feet wide, producing good saving work. East in this level the lode is 18 in. wide, with a very promising appearance. In the 75 west the lode is 2½ ft. wide, and worth 10 cwts. of lead per fathom. We have three stopes in the back of this level—No. 1, 15 cwts.; No. 2, 10 cwts.; and No. 3, 7 cwts. of lead per fm. In the 75 east the lode is at present poor. In the 65 east the lode is 2 ft. wide—a kindly lode. We are making good progress in sinking Clogg's shaft below the 40. In the 40, west of the north cross-cut, the lode is 2 feet wide, composed of quartz, mundic, flookan, and a little fine lead, and looking exceedingly promising for an improvement. The masons and carpenters are at present busily engaged getting up the crusher-house, which shall be done with all possible speed.

CWM DARREN.—R. Williams, June 24: The lode in the sink east of the shaft, in the 10, seems to show improvement as we open upon it eastwards. In consequence, however, of our having to clear away the stuff broken we have not done much since I wrote you last. There is no alteration in the cross-cut south. I may add that the lode stuff broken east of the shaft looks very well at the surface.

DEEP LEVEL.—June 21: In the deep level going west of junction, on Pant-y-Go vein, the lode is 18 in. wide, composed of limestone, spar, and strings of lead ore, producing saving work of a low quality. The lode in the deep level south, west on deep level vein, is 2 ft. wide, principally spar, with spots of lead ore, looking promising for a further improvement. There is a large cavity in the present end, which is discharging a stream of water; the ground is much better for driving than of late. The pitch over this level, behind the present end, is a little improved; lode 3 ft. wide, worth 16 cwts. of lead ore per fathom. The lode in the 204, west of Eyton's shaft, on Pant-y-Go vein, is about 12 inches wide, in hard ground, producing some good stones of lead ore. The pitch over this level, behind the present end, is in a lode 18 in. wide, worth 10 cwts. of lead ore per fathom. The two tribute pitches over this level, to the east of this shaft, have fallen off in value; now worth 14 cwts. of lead ore per fathom. The pitch below the 204, to the east of the winze, is a little improved, worth 1 ton of lead ore per fathom. There is no change in the 174, west of Pant-y-Go shaft. We have been engaged during the last three weeks in clearing out an old sump with some old workings to the east of the sump below the 174, at a point about 100 yards to the west of Pant-y-Go shaft. We are now down about 14 yards below the level. We hope to reach the bottom of the old workings by the end of this week. The lode in the 202 east of cross-cut, east of Pant-y-Go shaft, is about 12 in. wide, composed of spar and blende; ground hard for driving. We have a tribute pitch working about 10 yards below the 174 (16 yards in advance of this level), where the lode is 6 ft. wide, composed of clay, and producing saving work. The lode in the 202, west of cross-cut, is 2 ft. wide, principally composed of spar, producing occasional good stones of lead ore; ground hard for driving. The pitch below the 174, west of Pant-y-Go shaft, is now worth 12 cwts. of lead ore per fathom.

DOLWEN.—J. Davis, June 23: The south lode in the adit level is composed of light killas, ribs of spar, and spots of copper ore. The men are making good progress.

EAST BOTTLE HILL.—H. Hill, June 23: We are getting on favourably with our surface operations. The smith's shop and changing-house will be completed in the course of a few days. The 10 is driving by four men; the lode has increased in value the past two days; the branch in the lode is now 8 in. wide, producing good work for tin. We shall commence at once to collar up the old shaft and clear up the stuff, so as to enable us to commence driving west to communicate to the 10 to give ventilation, as the air is bad at present in the above level. We have been drawing some good tinstuff to the stamps to-day, and as soon as we get the new stamps heads at work, which we shall do with all possible speed, I hope to be able to bring round a sampling.

EAST GUNNISLAKE AND SOUTH BEDFORD.—J. Bray, June 23: During the past week the sumpmen at Impham have been engaged in cutting a plat in the 14 fathom level, which will be completed on Friday next, we shall then commence to sink under that level with all speed. The lode in the 14 east is 5 feet wide, composed of spar, peach, prian, and mundic, with occasional stones of good yellow ore. We shall begin to draw stuff with the hauling-machine on Monday next. The lode in the 16 east, on south lode, is without change since last report.

EAST PLYNLIMMON.—J. Paull, June 19: In the adit level, going west from the Wye river, the lode has much improved in appearance and size, being at present 2 ft. wide, strongly mixed up with mundic and gossan—a very promising looking end just now. We have commenced shoding for the lode in the centre of the sett, but as yet have not come across it. The deep adit cross-cut north (near the western end of the sett) is making fair progress, but the ground is slightly stiffer for driving through than it has been hitherto.

EAST ROSEWARNE.—C. Glasson, June 24: In King's shaft, sinking below the 115 fm. level, the lode is 6 in. wide, producing stones of copper, but not of much value. In the 115 fm. level, west of shaft, the lode is 2 ft. wide, worth 20l. per fathom. The lode in the 105 fm. level, west of shaft, is improved a little since my last report, now 20 in. wide, worth 4l. per fathom. We sampled on Tuesday last 100 tons of ore, of about the usual quality.

EAST SNAEFELL.—W. H. Rowe, June 23: The lode in the shaft sinking below the 35 is about 1 ft. wide, composed of spar, lead, and jack. We seem to have done with the unfavourable floors of ground, and the lode is most certainly improving in depth.

EAST WHEAL BASSET.—W. Nancarrow, June 23: In the 140 cross-cut south we are pushing on with all possible speed, and hope to cut the lode in some 2 or 3 fms. further driving. In the 130 east the branch is about 9 in. wide, worth 5l. per fm. for copper ore. The lode in the 130, west of No. 2 cross-cut, is 1½ ft. wide, still producing tinstuff of low quality. The lode in the 125, west of cross-cut, is 15 inches wide, producing good stones of copper ore. The winze sinking below the 120 is down 2 fms., but the water being so much we cannot at present sink deeper. We have put the men to stope west, which stope is worth 10l. per fm. for copper ore. There is nothing new in the 130 north towards the tin lode. We sold on June 15, 150l. worth of tinstuff.

EAST WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, June 19: Everything is being forced on at this mine as expeditiously as possible, but we do not see anything calling for a remark since our advise of Wednesday; in fact, no lode has been taken down at either of the ends since.

— G. R. Odgers, W. Bennetts, June 23: We cannot see any alteration in this mine calling for a remark since our last advice. We are pushing on everything as fast as we possibly can, and on Saturday we will send you a full setting report, in which we will state the value and appearance of every place.

EAST WHEAL LOVELL.—R. Quentrall, June 23: The new discovery, about 200 fms. west of engine-shaft, continues to look very promising to open up a good run of tin ground; the lode is from 10 in. to 12 in. wide, 4 in. of which is rich work for tin.—South Lode: The winze sinking below the 60 is worth 40l. per fathom. We have resumed sinking the shaft on the north lode below the 70, which is worth 180l. per fathom, or upwards.

EBURY.—F. Kitto, June 22: We have passed through another branch, about 6 in. wide, containing a little lead, the most promising branch I have seen in the cross-cut. I think we are gettiug into a better channel of ground for lead. I have one man working in the cross-cut who worked on the lode we are cross-cutting for, and he says the ground in the cross-cut is just like the ground about the lode.

— F. Kitto, June 24: We have another branch or lode in the cross-cut; there is a rib of ore from the roof down about 3 ft. from 3 to 6 in. through, and below that it is mixed with lumps of ore; we are in the lode about 9 in., but are not through it yet. I am happy to say it is the best looking thing I have ever seen in the mine. I will write you again in a day or two.

FRANK MILLS.—J. Cornish, F. Cornish, N. Addems, June 23: The lode in the 145 south, and the ground by its side, are without change since our last report. The 130, north of winze, is suspended for the present, and the men are now engaged extending the 145 cross-cut west, preparatory to putting up a rise to communicate with the said winze. We have resumed the 130 south, from the engine-shaft on the east lode; the ground is favourable, and interspersed with strings of lead ore. The west lode, in the 100 south, maintains its favourable appearance, and is yielding some saving work. The west lode, in the 84 north, is yielding ¼ ton of lead ore per fathom. We have commenced a winze in the bottom of this level, the lode in which is yielding from 8 to 10 cwts. per fathom. The stope in the back of this level is producing from 18 cwts. to 1 ton of lead ore per fathom on the average. The west part of the lode, in the 72, north from Taylor's cross-cut, is at present disordered, but the ground favourable for progress. One stope in the back of this level has been put through to the 60, and another commenced, the lode in which is producing fully ½ ton of ore per fm. The lode in the stope adjoining to the south is also producing ½ ton per fathom. We have three stopes working in back of the 60, yielding respectively 12 cwts., ¼ ton, and ¼ ton of lead ore per fathom. All other parts of the mine without any particular change, and the dressing progressing well for the next sampling.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., June 19: The lode in the 82, west of King's engine-shaft, is still showing a very promising appearance, being 8 ft. wide, composed of mundic, spar, capel, and about 2 tons of ore per fm. The part of the lode carried in the 82 east is 4 ft. wide, being principally composed of capel, intermixed with mundic and ore. The lode in the 70, east of shaft, is 6 ft. wide, yielding 1 ton of ore per fm. The winze sinking below the 70 is going down between the north and south parts of the lode, for the purpose of speed and economy, which course we intend to continue until we have made a communication with the 82 below, when our facilities for opening and taking down the ore part of the lode will be greatly enhanced. The lode in the stope east of winze is worth from 6 to 8 tons of ore per fathom. The winze sinking below the 60 is getting near the 70, which we hope to communicate in the course of next week.

GLASGOW CARADON CONSOLS.—W. Taylor, June 22: Caunter Lode: No change to report in the 78 west; the lode is worth 6l. per fathom. We are getting clear of the cross-courses, and I think the lode will soon improve. The stopes on this lode are about the same value as last reported. The ground in

the cross-cut south, in this level, is better for driving, and letting out more water. No other change.—Arrol's Lode: In the 65, east of western cross-course, the lode is worth 7*l.* per fathom; the rise in the back of the 65 fathom level is worth 6*l.* per fathom; we are expecting to be able to hole this rise to the 52 daily.—Harvey's Lode: There has been no lode taken down in the 65 fm. level east since my last report; we are driving by the side of the lode. We have just cut this lode by a cross-cut west of the western cross-course, worth 7*l.* per fathom. We are now driving west on its course; it is a kindly lode, and likely to improve away from the cross-course. No alteration in the stopes on this lode since my last report. We are getting on very well with dressing ores for the next sampling. We expect to have about the same quantity as we sampled last.

GREAT NORTH DOWNS.—Wm. Rich, W. Ennor, June 23: We have intersected the south lode in the 74 fm. level cross-cut, at Buttler's shaft; as far as seen it appears to be about 1 ft. wide, yielding good stones of copper ore; when it is fairly cut through we intend to open out east on its course. The 74, east of Buttler's, has improved, now worth 10*l.* per fathom. The stopes in the 64 fm. level east are worth 10*l.*, 10*l.*, and 8*l.* per fathom respectively. The water in Sleggan's shaft has abated considerably; we are urging on the sinking by twelve men. The 84, west of Sleggan's, is worth 10*l.* per fathom. The 84 east, on the north part of the lode, is worth 6*l.* per fathom. The 84, west of King's, on the south part, yields excellent stones of ore; we are driving through the lode obliquely, to meet the end from Sleggan's shaft. The stopes in the back of the 84, at Sleggan's, are worth 30*l.* per fathom in the aggregate. A stope in the 74, west of Sleggan's, is worth 9*l.* per fathom. The ground is much easier in the 74 fm. level cross-cut, south of Sleggan's. There is nothing to report on at the cross-cut at Vivian's engine-shaft. The tin stope in the back of the 48, west of King's shaft, is worth 8*l.* per fathom. We have not been able to resume the sinking of King's shaft below the 84, but will do so as soon as the water is drained off.

GREAT NORTH LAXEY.—R. Rowe, June 23: We have this week tapped a very heavy feed of water in the 110, driving north, which is a strong indication that we are near to some change, and I fully expect for the better. The 96 fm. level end, having passed through a rich bunch of ore, is now in what we here term a "nip," the same as seen in the level above. The 84 fm. level end continues to look well; the lode is from 3 to 4 feet wide, and worth 1 ton of lead per fathom; we have now driven through 13 fms. in length of this ground. The lode in the 73 is 3 ft. wide, of a most promising character, composed of quartz and lead, and worth for the latter about 15 cwts. to the fathom. We are now quite under the old engine-shaft. The 27 fm. level winze, south of the engine-shaft, is worth 15 cwts. to the fathom.

GREAT RETALLACK.—J. Harris, June 24: No. 1 Lode: The lode in the engine-shaft sinking below the 30 is 2 feet wide, composed of quartz, &c., containing good stones of lead, but not enough to value. The lode in the 30 south is 1 ft. wide, composed of friable spar, &c., with good lead, worth 3 cwts. per fm. In the 30 north the lode is at present disordered by a cross branch, which has caused the lode to be split up into a number of branches or seams, showing little lead. In the winze sinking below the 20 north the water has so increased that little progress has been made in the sinking during this week; the lode is worth from 8 to 10 cwts. of lead per fathom. The men in the stope above this level have been desuing the lode this week, consequently there is no change in value to report.—No. 2 Lode: The lode in the engine-shaft sinking below the 40 fathom level is 15 inches wide, composed of quartz and prian, with stones of lead. The lode in the 40 north is 1 foot wide, composed principally of gossan. The stope above this level is worth 4 cwts. of lead per fathom.

GREAT ROYALTON.—Thomas Parkyn, June 24: The east shaft, on the great north lode, is 9 fathoms from surface. In driving west of the shaft I find an old level. This is the deepest point the ancients could go. I find a junction has taken place here. A lode known by the name of King's lode has fallen into or joined the north lode. The greater part of these lodes above the back appear to have been taken away. An arch of ground left I measured this morning, and I find both lodes to be 4 fathoms wide. This arch of the lode left is very rich work for tin, and it appears to me that it is keeping up an immense mass of rubbish above. Going east, only a part of the lode has been taken away, I suppose, in consequence of its great width. I broke out some very good stones of tin from the bottom of the level this morning. These lodes will yield immense quantities of tinstuff for the stamps. I am of opinion that we have a large deposit of tin at these junctions.

GWYDYR PARK.—W. Smyth: The ground in the Gwyn Llifion deep adit is of the same character as when last reported on. The Vucheslas deep adit end is showing a little more water. No other change since last report.

HARWOOD.—W. Vipond, June 18: The level is easier for driving on Mouncer; in fact, I have not seen it so good to drive since we began in it; there are still some samples of ore in it, but nothing of value. Messrs. Walton sent their carrier for some of the ore on Thursday, and the Duke's agent was here for the dues. I shall advise you when the ore is all off.

HINGSTON DOWN CONSOLS.—James Richards, June 24: In the 140 cross-cut north the ground continues hard, and progress is slow. In the stope in the bottom of the 130, near Bailey's shaft, to the south of the main level, the lode is still worth 2 tons of ore, or 10*l.* per fm. In the stope in back of the 130, east of Bailey's shaft, the lode is worth 6*l.* per fathom. In the 100, west of Bailey's shaft, the ground is still hard, and progress rather slow. In the 55 east, and east of the eastern cross-cut, on the north part of the lode, no lode has been taken down. In the stope in bottom of the 55, east of Morris's shaft, the lode is worth fully 2½ tons of ore, or 8*l.* per fathom. In the deep adit level south fair progress is being made, and branches composed of gossan, capel, mundic, and a little copper ore are still being met with.

LLYWERNOG.—J. Davis, June 23: We are driving the 62 east and west of winze, and the lode in each direction produces 2 tons of lead ore per fathom. I shall put two men to rise in the back of the 40 fm. level next week, and two to sink against them from the upper level, in order to effect ventilation; we shall then be able to drive this promising end, and open our easterly ground, which is whole to surface, and about 200 fathoms in length. The lode in the present end is worth 12 cwts. of lead ore per fathom, and ore has been found in solid ribs in two places near surface east at the point of present operations. We are hauling stuff from the 62 fathoms level, but cannot crush regularly, as we have not sufficient water at present to keep the 40-ft. wheel going fast enough; doubtless we shall soon get rain.

MARKE VALLEY.—John Truscott, June 23: The ground in the 136 cross-cut north continues hard.—Marke's Lode: The 124 east is producing saving work. The 124 west will yield 1 ton per fathom. The 112 east is producing saving work. The 100 east is poor.—Sarum Lode: The 100 west is by the side of the lode. The 100 east is worth 2 tons per fathom.—Rosedown Lode: The 90 west is worth 3 tons per fathom; 80 west, 1 ton; 70 west, 2 tons; 60 west, 2 tons; 50 west, 2 tons; 40 west, 2 tons; 30 east, 3 tons per fathom. The men are making good progress in sinking Fawcett's shaft below the 90.

MINERA UNION.—W. T. Harris, June 17: Low's Shaft: The lode in the 60 north is 4 ft. wide, yielding stones of lead, and very promising. In the cross-cut, driving west from this level, we have cut into the sand lode 5 ft., composed entirely of sand; I expect a change as we approach the hanging side.—Brabner's Shaft: The north lode in the 80 is the same in every respect as last reported. The rise in the back of this level, on main lode, yields a little lead, but not enough to value. We have cleared to the forebreast in the 60 south; the ground consists of limestone and clay.—Flue Shaft: The lode in the 50, north of winze, yields occasional stones of lead. No change to remark on in the pitches since last reported.

MINERA UNION.—W. T. Harris, June 23: Low's Shaft: In the 60 yard level north the lode is 3 ft. wide, yielding stones of lead, and promising. The sand lode, in this level, is 9 ft. wide, yielding no lead to value. This is not an unusual occurrence when the lode exceeds 5 ft. in width. We have commenced to drive north on its course, and expect an early improvement.—Brabner's Shaft: The north lode, at the 80 yard level, is 3 ft. wide, composed of spar and chert; good progress is being made in driving north. The rise in back of this level, on main lode, yields a little lead, and ground promising. The lode in the pitch in bottom of this level south is worth 12 cwts. of lead per fathom.—Flue Shaft: The lode in the 50 yard level north is disordered by a cross joint, which yields occasional stones of lead. The pitch in bottom of 40 yard level north is worth 12 cwts. of lead per fathom. No change elsewhere to notice.

MOUNT PLEASANT.—W. Wasley, June 24: The ground in the 75 yard level, driving west of Jenkins's shaft, is rather hard for driving at present; set to drive, for this month, at 12s. 6d. per yard, and 9*l.* per ton for ore. The ground in the level driving west of the boundary shaft is harder for driving than it was, but I expect as we get nearer the flat that the ground will improve. The end is set to drive, for this month, at 27s. 6d. per yard, the men to pay all costs, &c., as usual.

NEW CLIFFORD.—J. Michell, June 24: In the 50 fm. level cross-cut, north of engine-shaft, we have intersected branches of spar, blende, and copper ore, and, no doubt, we are very near Weston's lode. No other change worth mentioning since my last advice.

NEW CROW HILL.—T. Trelease, A. Kent, June 22: We still continue to make good progress in sinking the engine-shaft, the ground being still favourable for so doing.—Wheal Louisa: In the 75 we are making good progress in extending it east; the lode in the end is composed of peacock ore, mundic, and quartz, but we hope to see a change as we get further east.

NEW GREAT CONSOLS.—R. Pryor, R. Trathen, T. Bennetts, June 21: There has no particular change taken place worthy of notice in any of the ends or stopes in the past week. Good progress is being made in sinking Rendle's shaft.

NEW TRELEIGH.—S. Michell, June 24: The new shaft is down nearly 5 fms. below the 78, the lode looks kindly, but not rich. The lode in the 78, west of shaft, has been taken down to-night, and is looking pretty well, worth 2½ tons or ore per fathom. The men have not reached the north in cross-cutting through the lode as yet in the same level east. The stopes west of winze in the 70, west of new shaft, are looking very well, worth 2½ tons of ore per fathom. The stopes in the back of the 78, east of shaft, are not so good as they have been.

NEW WHEAL TOWAN.—R. Pryor, June 23: The lode in the adit end and stopes is without any change worthy of notice since my last report.

NORTH DOWNS.—Jas. Williams, June 22: The following is our setting report:—The 85 to drive west of King's engine-shaft, by six men, at 14*l.* per fm.; lode much the same as last reported. The 70 to drive west of sump-winze, to six men, at 10*l.* per fm.; lode worth 18*l.* per fm.; this end is letting out a quantity of water. The 60 to drive west of cross-cut, on the south lode, by two men and two boys, at 6*l.* per fm.; lode worth 7*l.* per fm. A winze to sink below the 60, west of sump-winze, by six men, at 6*l.* 10s. per fm.; lode producing stones of ore, but not to value. A winze to sink below the 60, on the south lode, by two men and two boys, at 7*l.* per fm.; lode worth 7*l.* per fm. A stope in the bottom of the 60, west of sump-winze, to six men, the month, at 3*l.* 10s. per fm.; lode worth 18*l.* per fm. A midway level to drive above the back of the 60, by three men and three boys; lode worth 9*l.* per fm. Our pitches are much as usual.

NORTH POOL.—J. Vivian and Son, F. Clymo, June 24: In the 52, west of Ballarat shaft, the lode appears to be improving in character, and we have therefore discontinued driving east, and put the sumpmen to drive west. In the 24, east of Ballarat shaft, the lode has been small and disordered, but is now getting larger and more defined, and producing some copper ore of a good character, indicating, we think, further improvement. In the 30, east of sump-winze, on the middle branch, the lode had become small, and did not present so good an appearance as when last reported on, but is now again improving, and producing copper ore throughout. The water is going down slowly in the old workings, and we are watching its subsidence with the view of commencing operations on some of the ore ground left by the former company at the first opportunity.

NORTH RETALLACK.—J. Harris, June 24: The lode in the stope at the bottom of the No. 1 boundary shaft is 15 in. wide, principally of quartz, with stones of lead; this stope will be finished by to-morrow morning, when we shall commence to drive the end north from the shaft.

NORTH ROSKEAR.—R. Goldsworthy, R. Angove, June 23: No change to notice in any of the bargains since our last report. We have now ready to sample about 47 tons of copper ore.

NORTH TRESKERBY.—R. Pryor, T. Jenkin, June 24: Treslidder's Shaft: The lode in the 130, east of shaft, is still large, and opening up tribute ground. The ground in the 120 is undergoing a change, which leads us to expect an early improvement. The lode in the 110 is producing 3 tons of copper ore per fathom. All other places continue without change.

OLD GUNNISLAKE.—F. Phillips, June 23: At Parker's shaft about 3 feet have been sunk, but no particular change to notice. The same remark will apply to the deep adit, where about 2 fms. have been driven.

PEDN-AN-DREA UNITED.—W. Tregay, J. Thomas, June 19: Sump: In the 140 east the lode is worth 10*l.* per fathom. In the 140 west end we have intersected the cross-course, but have not yet seen the lode beyond it; up to the cross-course the lode is worth 40*l.* per fm. In the 120 west winze the lode is worth 8*l.* per fathom. In the 120 north cross-cut the ground is now tolerably favourable for driving, and good progress is being made. In the 100 east rise the ground is favourable, lode producing a little tin, not to value. In the 68 east the tinstone is of fair quality.—Cobbler's: Martin's lode, in the 120 west end, is still unproductive. In the 120 west rise the lode produces occasional stones of tin, not to value.—North Lode: In the 90 east the lode is worth 25*l.* per fathom. In the 90 west the lode is worth 15*l.* per fathom. In the 90 rise the lode is worth 20*l.* per fathom.—North Shaft: In the 55 east the lode is worth 12*l.* per fathom. In the 55 west the lode has taken a shift northwards, so the present end carries a small portion of it, which is worth 25*l.* per fathom. We purpose shooting northwards to open more upon the lode. In the 47 east the lode is worth 15*l.* per fm., and we think there is still more to cross-cut. In the 47 west the lode is worth 25*l.* per fathom. No other changes to report.

PENHALE UNITED.—R. Pryor, H. Bennetts, J. Pryor, June 23: The tutwork bargains throughout the mines continue just the same as when last reported on, with the exception of the 80 end, north of Hall's shaft, where we have met with a great increase of water, which is a favourable indition of an early improvement. Friday next being our pay and setting, a full report shall be sent you.

PENHALE WHEAL VOR.—W. H. Martin, June 22: In the engine-shaft the men are cutting the bearer-holes. We shall lose no time in fixing the standing-lift, and then resume the sinking below the 110. In the 110 north cross-cut we have not met with anything since last advised. The men engaged in the 74 about the bob-plat are making satisfactory progress. There is no change to remark in the lode in Ritchie's shaft, as the men are preparing to fix the drawing-lift from the 60 to the 75.

PRINCE OF WALES.—J. and W. Gifford, June 22: In the 65 east we have cut the eastern cross-course, which is 1 foot wide. In the 65 west the lode west of cross-course, as far as seen, is 6 feet wide, with no north wall as yet; it is worth 20*l.* per fathom, with every appearance of improving. The stope in the back of the 65 east is worth 10*l.* per fathom. The stope in the back of the 65 west is worth 15*l.* per fathom. In the 55 east and west there is no change. In the 55 fm. level cross-cut south the ground is more favourable for driving. In the 55 fm. level cross-cut north we are driving east on the branches reported on last week, and from all appearances they will form a junction in 6 or 8 feet further driving. The 55 east, on the new south lode, is without change. The stope in the back of the 55 east is worth 30*l.* per fathom. The stope in the back of the 55 west is worth 15*l.* per fathom. The stope in the back of the 45 west is worth 10*l.* per fathom. We hope to sample on Friday next nearly 110 tons of copper ore.

PRINCESS OF WALES.—T. Foote, G. Rickard, June 23: In sinking Harriss's engine-shaft below the 20 the same favourable improvement in the killas made mention of in our last report still continues, being thickly spotted with rich grey and yellow copper ore, with branches or feeders of the same dipping north towards the lode; this, in our opinion, is a sure indication of being so near the lode that when cut it cannot fail to be a valuable one.

PROSPER UNITED.—J. Nicholls, C. Lobb, June 21: Fair progress is being made in sinking Hand's engine-shaft; the ground is getting more mineralised, and we fully expect a good lode at the 110 fm. level. The lode in the 90 west is increasing in size and value, being now 3 ft. wide, and worth 12*l.* per fathom. The lode in the 80 west is rather small at present, but it has a promising appearance, and is producing saving work for tin. The stopes and pitches are producing about the usual quantity of tin, and the dressing of tin towards the next sale is going on satisfactorily. All the machinery on the mine is in good working order.

REDMOOR.—T. Taylor, June 24: In the 25 fathom level end west the lode is 5 feet wide, containing good stones of copper ore. We may expect an improvement shortly. There is no change in the gossan lode. I hope to dial the lead course at Holmbush to-morrow. They are now breaking some good saving work.

ROYALTON.—John Hosking, June 24: We are making fair progress in driving the 15 and 25 fathom levels. In the 25 east we have driven through a good lode for many fathoms, and have commenced to open out two stopes in the back, which will yield a large quantity of profitable tinstuff for the stamps. The western stopes, in this level, are still looking exceedingly well. Our steam stamps are doing good duty, and should no accident arise, I have no doubt we shall have the same quantity of tin for sale this month as we had last.

SOUTH CONDURROW.—Joseph Vivian and Son, William Williams, June 23: We are making good progress in the 82 fathom level cross-cut towards the tin lode. In the 71 fathom level cross-cut, through the tin lode, we have not yet reached the south wall, and the tinstone continues of much the same quality as when last reported on. In the 61, west of King's shaft, the lode is 3 feet wide, and becoming richer in tin than it has been recently, so that we hope we shall soon again have a valuable lode in this end. In the winze sinking under the 61, west of King's shaft, the lode is worth about 25*l.* per fathom. In the 51, west of Vivian's shaft, the lode has increased to a width of about 3 feet, and is producing copper and tin ores to the value of about 5*l.* per fathom, whilst presenting a very promising appearance for further improvement. The other parts of the mine are without alteration to notice.

SOUTH DARREN.—J. Boundy, Wm. H. Boundy, June 21: Since last report we have taken down the lode in the 70 west, which is 2½ ft. wide, and worth for lead and copper ore full 20*l.* per fm., and is looking promising for further improvement. The lode in the 60 west is 18 in. wide, and presenting a better appearance for lead. The different stopes throughout the mine are without alteration to notice since last reported on. There is no change of importance in any other part of the mine.

SOUTH FOWEY CONSOLS.—F. Puckey, June 21: In the 30, driving east of the engine-shaft, the lode in the end is now 2½ feet wide, composed of quartz, peach, and mundic, and producing good stones of yellow copper ore; the lode is letting out more water, and is looking very promising for an early improvement. In the 30 cross-cut, driving south of the engine-shaft, during the past month we have intersected a very promising lode, which is 1 ft. wide, underlying south 1½ ft. to the fathom, and producing good stones of copper ore. We are still continuing the driving of the cross-cut south, and fully expect to intersect the next lode in 3 or 4 fathoms further driving; the stratum of ground is exceedingly good for producing mineral, and easy for exploring; cost for driving the end is 3*l.* 10s. per fathom. All our operations are being forced on as fast as possible.

SOUTH HERODSFOOT.—W. Goldsworthy, June 24: In the cross-cut at the 100 we are driving at our usual rate, but there is no change to notice in the ground this week.

SOUTH MERLLYN.—H. R. Harvey, June 23: Since my last we have been driving the 40 north from Bartlett's shaft through a swallow, and, therefore, the end has not been producing much ore; we are now getting into more settled ground, and coming into some fine stones of lead. I feel certain of discovering something good in a short distance driving, judging from present appearances. We have eight men engaged here driving, at 6*l.* 10s. per fm., and are pushing on the end with all speed, so as to be able to prove the ore ground gone down in the level above; this to us is important. In the 40, south from the same shaft, the men have been stoping, and I have now set the end to drive, by two men, at 5*l.* 15s. per fm. We are getting nice lumps of lead from this point, and the lode presenting a very kindly appearance. No other change. All other operations are proceeding satisfactorily.

SOUTH VAN (Llanidloes).—Edward Evans, June 23: This sett is very extensive, and embraces two large lodes known to exist, on one of which operations are being carried on by driving an adit level on the course of the lode, and the great altitude of the hill will enable this level to come in a considerable depth. The lode is composed of flookan, gossan, sugary spar, blende, and lead ore, and bids fair for a speedy improvement. I have been over this mine a great many times, and I feel no hesitation in stating that I believe the property to be as good as any mine in the neighbourhood when developed, and being so near the Van, with the same stratification, and also in the midst of a rich metalliferous district, shows evident indications of its productiveness. I have not often been able to speak with such confidence upon a mine as this; in fact, it requires no eulogy from me as to its real merits, as the lode already laid open speaks for itself in language more plain than my pen is able to describe. There are good roads to and from the mine, and being only three miles from a railway station renders the property more valuable. I think that with a small outlay most profitable results will be obtained.

SOUTH WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, June 19: The lode in the 42, west from the cross-cut, is 18 in. wide, of quartz, &c., embedded in a hard elvan. The lode in the eastern end is 18 in. wide, containing more friable quartz, with iron. We will send you further particulars for the meeting.

STRAY PARK.—J. Thomas, J. Cock, June 24: We regret having to report that on Sunday last the main-rod suddenly broke in course of working, and being nearly at the top of the stroke two other rods were broken by falling, and also the box of the underground balance-bob. We hope to be able to get the whole to work by the end of this week, and to commence again drawing out the water which is now accumulating in the mine. This unforeseen accident will seriously interfere with our returns of tin for the next account, but fortunately no damage is done to the engine, which would have been a much more serious matter. There is nothing new to report in reference to the value of the lode, or of the general prospects of the mine, further than we stated in the report at the last account.

ST. JUST AMALGAMATED.—R. Pryor, T. Gundry, N. Bartle, June 22: The lode in the 100, driving east of engine-shaft, on Sawcall's lode, is 2½ ft. wide, producing good stones of tin, and presenting a favourable appearance. The lode in this level, driving west of ditto, is much the same as when last reported on. The lode in the 95, driving west of engine-shaft, is 3 ft. wide, and worth 4*l.* per fathom. The lode in the 76, driving west, is 2 ft. wide, and not looking quite so well as when last reported on, being a little disordered. The lode in the winze sinking below this level is worth 5*l.* per fathom.—Pryor's Lode: The lode in the 62, driving west of cross-cut, is producing saving work for tin. In the winze sinking below the 62, east of cross-cut, the lode is worth 10*l.* per fathom. The lode in the winze sinking below this level, west of cross-cut, is producing good stones of tin, and promising for an improvement.—Owl Lode: The lode in the rise in back of the 40, north of Reddipper shaft, is worth 4*l.* per fathom. The 20, driving west of West Buck shaft, is worth 4*l.* per fathom. The lode in the rise in back of this level, east of shaft, is worth 3*l.* per fathom. The lode in the 10, driving west of West Buck shaft, is worth 3*l.* per fathom. The lode in the 10, driving north of West Buck shaft, is worth 4*l.* per fathom.—Wheal Widden Lode: The lode in the 30, driving east of Reddipper shaft, is worth 3*l.* per fathom. The lode in the 20, driving east of ditto, is worth 3*l.* per fathom. The lode in the 10, driving east of ditto, is worth 3*l.* per fm. No change to notice in any other part of the mine.

TREREW.—June 21: The lode continues large in the 20 south, and soft for driving. On Friday night the men broke a tubfull of beautiful stones of lead; it is a lode from 5 to 7 ft. wide, plenty of mundic, soft spar, and peach, with a little lead in places; we calculate on driving 12 fms. in the month. There is no alteration to notice in the old footway shaft; these men a reonly carrying down about 4 ft. of the lode, which is spar and gossan. We want to push this down as fast as possible, in order to ventilate the 20.

VAN CONSOLS.—T. Corfield, June 24: The footwall of the lode in the 30 fm. level east has been reached, the width from north to south being 33 feet, lode throughout of the character last reported. The level is now being driven east on the south part of the lode, which is composed of flookan, carbonate of lime, and lead. I consider it to be a very promising lode. At this point we may daily expect to meet with a course of ore, as the end will soon be passing under the bunches of lead discovered in the deep adit level. We are making preparations for erecting a 50-feet water-wheel, for conducting the operations at Gundry's shaft. Near the eastern boundary we are now opening a shallow cross-cut, where the lode is intersected, to examine the appearance and character of the same. I am having the miners' cottages repaired, to have the advantage of workmen living on the mine.

VIGRA AND CLOGAU.—Wm. J. Cooke, June 17: St. David's Lode—No. 2 Mine: The lode in the level driving west from No. 6 shaft is 3 ft. wide; westward it continues wider than the level; the quality of the quartz is unaltered.

— Wm. J. Cooke, June 24: St. David's Lode—No. 2 Mine: The drivage west from No. 6 shaft has advanced 13 ft.; in about another fathom we shall be in the vicinity of the gold shoot; the lode continues large, and has improved a little eastward. We have driven 16 ft.; the lode continues much disordered, but a favourable change is expected in a fathom or two more driving.

WEST BASSET.—G. Lightly, June 23: In the 114 west the lode continues worth 10*l.* per fm. for tin. In the 65 west, on Hambly's, the lode is again improving, and is now composed of good quality tinstuff. Other points are much the same as when last reported on. Our sampling of copper ore to-day is (computed) 174 tons.

WEST CARADON.—W. Johns, N. Richards, June 22: At Marina's shaft, in the 30, east of the cross-cut, Allen's lode is looking well, fully 3 feet wide, and producing close upon 3 tons of copper ore per fathom. The rise in the back of the level is worth about 2 tons of ore per fathom. The lode in the winze sinking below this level is producing a pretty deal of mundic and peach, mixed up with yellow copper ore, and from all appearances it is likely to lead to something good. The lode in the shaft is looking very kindly, from which we are breaking good stones of ore; on the whole, this part of the mine is opening out satisfactorily. At Elliott's engine-shaft the lode cut in the 170 fm. level cross-cut, north of Allen's, is about 6 in. wide, spotted with ore, and is more regular than anything before seen in this cross-cut.

WEST GODOLPHIN.—J. Vivian and Son, J. Pope, jun., June 24: Caunter Lode: We have commenced driving the 20 south-east and north-west of Pressure shaft, the lode being 3 ft. wide, and worth 20*l.* per fathom. In the deep adit level, south-east of Pressure shaft, the lode has not been taken down for the month. In driving the middle adit, east and west of the caunter, on the South Hope lode, profitable tin ground is being opened. In the 35, east of Paull's shaft, the lode presents a very good appearance, and profitable tin ground is being opened; in the same level, west of Paull's shaft, the lode produces a little tin, but not enough to pay. In the 25, east of Paull's shaft, profitable tin ground is being opened; in the same level, west of Paull's shaft, the lode has not been taken down since the last report. We think we have grounds for calculating on improvements at one or two points in the mine shortly.

WEST PRINCE OF WALES.—W. C. Cock, June 22: We have completed the fixing of the lifts, &c., in the north engine-shaft, and the men are now engaged in cutting ground for and putting in slide dams, water-pipes, &c., to carry the water into the cistern from above. I hope to have all this done, and the sinking of the shaft resumed, by the end of this week. The lifts above referred to are looking well.

WEST ST. IVES.—T. Uren, jun., June 23: There is no change in the cross-course since last reported; the ground is still soft, and we are getting very near the south tin lode.

WEST TOLGUS.—June 23: Taylor's sumpmen are making fair progress in sinking Taylor's engine-shaft below the 95; the ground is a good killas. In the 95, east of Taylor's engine shaft, we are carrying only part of the lode, which is producing 2 tons of ore per fathom. The part of the lode that is being carried in the 95 west is 4 ft. wide, producing 5 tons of ore per fathom, worth 20*l.* per fathom. We are not carrying all the lode in this end, but shall have it cut through against setting-day, to ascertain its size and value. We expect to hole the rise over the back of the 95 east in a day or two, when we shall take down the lode that has been desued for 3 fathoms high. We have finished stoping down a piece of ground in back of the 95, stated in our report of the 12th inst. as set per contract for 10*l.* We this day put the men from the above-mentioned bargain to rise in the back of the 95 west, 2 fathoms behind the end, where the lode is 6 feet wide, worth 30*l.* to 35*l.* per fathom, but we intend for the men to carry only part of the lode, as we want to ventilate as speedily as possible, and to shoot down the lode after the rise is holed. We have a good lode in the stope over the back of the 95, worth fully 30*l.* per fathom; this is stated in our report of the 12th inst. as set per contract for 25*l.* The lode in the western stope, over the back of the 95, is 6 feet wide, producing 6 tons of ore per fathom, worth 30*l.* per fathom. In the 85 east the lode is 3½ feet wide, worth 16*l.* per fathom. We have two stopes over the back of the 85 east, working by twelve men, each stope worth 16*l.* per fathom. We have not been able before to-day to get a pare of men for the 65, and only four men, instead of six, have taken the bargain. In Richards's shaft the lode has not been taken down since last reported; the ground is moderately good, and the men are getting on pretty well in sinking, cutting more water as they deepen the shaft, now three strokes in two minutes. At Taylor's the water is from six to six and a quarter strokes per minute. The engine and pitwork are working pretty well, and we are putting the shaft timbers in repair as fast as possible.

WEST WHEAL FRANCES.—Josiah Thomas, C. Crase, W. Rabling, June 24 The 130, west of Bailey's shaft, is worth 10*l.* per fathom. The winze under the 120 is worth for 9 feet long 25*l.* per fathom. The 120 west is producing a little tin. The 108 west is not of much value at present, but we expect an improvement in 5 or 6 fathoms further driving, as we shall then have reached the point where the 85 and 95 fathom levels began to improve. The 95 west is worth 15*l.* per fm. The 85 west is worth 20*l.* per fm. The 77 west is worth 15*l.* per fm. The 60 west is worth 12*l.* per fm. The new shaft is sunk 11 fms. from surface.

WEST WHEAL KITTY.—J. Vivian, June 24: Since my last report we have cut into the lode north about 5 ft., which is kindly in appearance, and worth 10*l.* per fathom; and as the western side of the cross-cut is richer than any other part of the lode as yet cut into, we purpose driving west on the south part of the lode for some little distance before driving north to the north wall.

WEST WHEAL TREMAYNE.—S. Roberts, June 22: In the 44 cross-cut south the ground is easy for driving—a very congenial natured killas. The lode in the 20 west, on south lode, is a large kindly lode, being the width of the end, and in places producing good stones of tin and copper ore. In Sutton's shaft this week the ground has been hard for that depth, but the lode is a good size, well defined, highly mineralised, and of great promise of productiveness as we get deeper.

WHEAL AGAR.—E. Rogers, June 23: The lode in the engine-shaft in the last taking down is greatly improved, yielding some very rich work for tin, now worth full 20*l.* per fm., and the deepest point is the richest and best. We have not taken down the lode in the 130, west of shaft, since last report. The 130, east of shaft, is producing low quality tinstuff. The ground in the flat-rod shaft and also in the 170 cross-cut is very hard, which is against our progress.

WHEAL BADDERN.—Wm. Giles, J. Jenkin, June 19: We have set the 75 fm. level cross-cut north to eight men, at 17*l.* per fathom for the month, or cut the lode. We consider the ground is almost spent where we expected to cut the lead lode, but it is possible that the elvan may alter its underlie; there cannot be any doubt but it will be soon cut and we hope and trust it will be a good one. We do not see any alteration in the increase of water, nor we may not till the lode is cut. We let the carriage of coals, to be delivered on the mine, at 2s. per ton; also the whim drawing for 12 months, at 12s. 6d. per 100 kibbles.

WHEAL BULLER.—J. Inch, J. Brown, June 23: Hocking's shaft, sinking under the 92 fm. level, is down 5 fms. 2 ft.; the lode in this shaft is squeezed by a floor of hard elvan, but we hope this will not continue long; the lode is still producing stamping work for tin; set to nine men, at 28*l.* per fathom. The 70, driving east on the north lode, is still producing stones of copper ore and tin, but not to value; set to two men, at 12*l.* 12s. per fathom. No. 1 stope, under this level, is worth 25*l.* per fathom for tin; set to six men, at 6*l.* 10s. per fathom. No. 2 stope, under this level, is worth for tin 23*l.* per fathom; set to six men, at 6*l.* per fathom. The stope in the back of this level is worth 12*l.* per fathom; set to six men, at 5*l.* per fathom. The stope under the 60, west of Bartle's winze, is worth 10*l.* per fathom; set to six men, at 5*l.* per fathom. The stope under the 60, west of the cross-course, is worth 12*l.* per fathom; set to six men, at 5*l.* 10s. per fathom.—Kistle's Shaft: The 60 west, on the south part of the lode, is worth for tin 3*l.* per fathom; set to two men, at 11*l.* per fathom. The 50 fathom level, driving east of the point of the horse, is worth for tin 15*l.* per fathom; set to six men, at 12*l.* per fathom; this end is greatly improved, and as this lode is standing in whole ground east we hope it will turn to good results. The stope in the back of this level is set to four men, at 7*l.* per fathom, and worth for tin 8*l.* per fathom.—Stevens's Shaft: The 92 east to two men, at 9*l.* per fathom; the lode in this end is producing tin, but not to value. The 60 to drive south, by four men, at 10*l.* 10s. per fathom; this end is to prove the south part of the lode. We also set ten pitches to thirty men, at an average tribute of 10s. in 1*l.* We have sampled to-day 16 tons of copper ore of a good quality, and have also sent nearly 9 tons of tin to the smelting house to-day.

WHEAL COURTENAY.—J. Gifford, June 21: On Saturday the following bargains were set:—The deep adit west to drive, by six men, stent the month, at 50s. per fathom; lode 2½ feet wide, principally capel, with a little mundic intermixed. To cross-cut north, stent 2 fms., at 90s. per fm., by the same men.

WHEAL CREBOR.—J. Gifford, June 21: On Saturday the following bargains were set:—Kelly's shaft, which is cleared and secured 5 fms. 5 ft. below the 120, was set to 12 men to clear, secure, and tram all the stuff, at 40s. per fm., stent 6 fms., or find the bottom; both the lode and strata so far as seen have a very favourable appearance for the production of copper ore, the former being 2½ ft. wide, composed of quartz, capel, and arsenical mundic; the latter a beautiful light-coloured killas, and appears to be increasing in size. The 120 east by six men, stent 2 fms., at 90s.; when the above stent is driven we shall begin to rise against the winze in the 108, and had it not been for the influx of water from the old mine, and by the engine being idle for three days and nights, in consequence of the water having been let out of the canal, we should have been in under the winze by this date. We have stoped the 108 east and 96 east and west on the south lode, and put the men in the 120 east for the time being. Davis's pitch, in the back of the 108 east, is set to four men, at 12s. in 1*l.*, and 12s. 6d. per produce. Clemen's pitch, in the back of the 84 east, by two men, at 11s. in 1*l.*, and 12s. 6d. per produce. We are getting on well with our dressing, and hope to sample between 60 and 70 tons of ore by the end of July.

WHEAL GRENVILLE.—G. R. Odgers, Wm. Bennetts, June 19: The lode in the 66, west from the north shaft, is worth from 17*l.* to 18*l.* per fathom. At the 100 east the men are engaged taking down the lode, the value of which shall be ascertained against the meeting. At the 90 fm. level cross-cut north—as we have before advised you—we have intersected a dropper, which is 2 feet wide, and which from assay is worth fully 12*l.* per fathom. We have since driven the cross-cut 2 ft. beyond this dropper, where we find the ground to be elvan, with a kind of decomposed granite, intermixed with small branches or strings of tin, evidently looking like a horse between two parts of a lode; but until we have driven it further it is impossible to speak definitely whether it be actually a part of the lode or a dropper to it. At the 100 fm. level we had a similar thing, then strings or small branches of tin, embedded in a kind of elvan, with decomposed granite for 8 or 10 feet; this led to a good bunch of tin, therefore we have a good opinion of this also, and which we would urge your prosecuting with the utmost vigour; but in the meantime we propose opening both east and west on this part, because it will open out good paying tin ground. We will on Wednesday write you a detailed report for the meeting.

WHEAL KITTY (St. Agnes).—W. Polkinghorne, S. Davey, June 19: In the 82 fm. level, driving west of Holgate's shaft, the lode is worth for tin 7*l.* per fathom.—New Shaft, Pryor's Lode: In the 106 fm. level cross-cut, driving south

of shaft, we have met with a small branch, producing good stones of copper ore and tin; we believe the main lode is but a short distance ahead, and shall push on to reach it. In the 94 fm. level, driving west of shaft, the lode is 3 ft. wide, and worth for tin 20*l.* per fathom. In the 94 fm. level, driving east of shaft, the lode is worth for tin 12*l.* per fathom. In the 82 fm. level, driving west of shaft, the lode is 2 ft. wide, and worth for tin 15*l.* per fathom. In the 82 fm. level, driving east of shaft, the lode is poor.—Caunter Lode: In the 82 fm. level, driving north of Pryor's, the lode is 2 ft. wide, and worth for tin 7*l.* per fathom. In the 44 fm. level, driving east of cross-cut, the branch is yielding splendid stones of tin.

WHEAL MARY ANN.—P. Clymo, J. Harris, J. Stevens, J. Skeat, June 23: The cross-cut in the 240 is extended 13 fms. towards the lode. Clymo's shaftmen are now engaged in fixing the plunger-lift from the 230 to the 240 preparatory to sinking under this level. In the 230 north the lode is still small, but producing a little ore; in the same level south the lode is 2½ ft. wide, worth 12*l.* per fathom. There is no change to notice in the 220 north since the meeting; in the same level south the lode is 2 ft. wide, worth 9*l.* per fathom. The lode in the 210 north is still unproductive; in the same level south the lode is small and poor. In the 200 north the lode is 2½ ft. wide, worth 6*l.* per fathom. In the 190 north the lode is 2 ft. wide, producing good stones of ore. The stopes and pitches are producing much as usual. We sampled on the 17th inst. two parcels of silver-lead ores—No. 1, computed 60 tons, and No. 2, computed 38 tons, for sale to-morrow.

WHEAL SPARNON.—W. Tregay, June 19: In the 30, west of cross-course, we have opened on the lode, and it produces good stones of copper ore; ground favourable for driving.

WHEAL UNY.—S. Coade, M. Rogers, June 19: The stopes and ends are of the same value as reported last week. Hind's engine-shaft is sunk 12½ fms. from surface, and set on Thursday last 10 fms., at 9*l.* per fm., to nine men. The rise over the 80 cross-cut is up 4½ fms.; rising by nine men, at 14*l.* per fm. We expect to get home the 70-in. engine from Tywarnhayle next week.

WYE.—J. Paull, June 19: The pumping machinery is in good working order, and Murchison's shaft being sunk with all speed. In two months from this time we expect to attain the depth for a 15 fm. level under the adit. The adit level going west is still in the soft or south part of the lode, and we shall soon put out another short cross-cut north to prove the hard or ore-bearing part.

BREAKING, SEPARATING, AND DRESSING MINERALS.

Mr. T. B. JORDAN, of South Lambeth, has invented some improvements in machinery and apparatus for breaking, separating, and dressing mineral substances. They relate to improvements in machinery and apparatus for breaking large stones containing valuable minerals to sizes suitable for going to the crushing mill or stamping mill, and also for separating the particles of crushed material into various parcels of different specific gravity. The breaking machine is a strong cast-iron frame or box, containing a hard iron ram and two wedge-shaped cheeks, also of hard iron, which have faces curved in horizontal section, and are kept in adjustment by massive wedges, against which they are bolted to the frame by properly-arranged adjusting screws. Motion is communicated to the central ram by an eccentric shaft passing though the iron box. The eccentric part of this shaft fits accurately into the centre hole of the ram, while its gudgeons, which are concentric with the driving pulley and fly-wheel, work in bearings fixed on each side of the box which forms the body of the machine, thus obviating all complication of levers and articulated joints, and bringing the whole power of the first mover to bear directly on the work to be done. The ram crushes the stones by each of its opposite surfaces, which are not weakened by corrugations, but are curved in horizontal section, so as to correspond with the curvature of the side pieces opposite to each face. The radius of this curvature shortens towards the bottom or outlet of the machine, for the purpose of preventing thin flakes of stone escaping without being sufficiently broken. Motion is communicated to the machine by a strap from any shaft to a pulley on the eccentric shaft. The separating or dressing machine is an improved arrangement of self-acting jigging machinery, which accomplices by a more perfect and continuous, and consequently cheaper, process the same separation of particles which is now performed partially by well-known machines, also acting by repeated pulsations of water.

The dressing machine consists of a large hutch or tank of any suitable material for containing water. A sieve of any required mesh is fixed in this tank a few inches below the water surface. Over this sieve at one end is a large hopper, from which a narrow adjustable opening extending the entire width of the sieve, having its mouth on the required level of the surface of the stuff under treatment, furnishes a self-acting adjustment for the depth of sand on the sieve bottom. Water is caused to rush upwards through this sieve, and the stuff resting on it at intervals and for times which can be readily adjusted to suit the quality of stuff under treatment, and by means which prevents any of the water from flowing back again through this sieve. He prefers doing this by the pressure of a column of water alternately admitted and cut off from the tank by a throttle valve and cam gear driven by a strap working on cones to command various feeds; or in situations where water is scarce he does it by a pump driven by the same adjustable means, and taking its water from a tank, into which it again drains after circulating through the machine.

The self-acting separation and delivery of the various classes of stuff is accomplished within the sieve in the following manner:—From the moment the sand leaves the lower opening of the hopper and is covered with water its heaviest particles begin to descend by the separating pulsating action of the water; at a short distance in front of the hopper a perforated metal partition is fixed across the sieve, the bottom edge of which dips slightly below the surface of the water when at rest; this renders it impossible that any substance should pass beyond this line without immersion, so that everything contained in the sieve must be subject to thorough jigging long before it can arrive at either of the delivery ports, situated at the other end of the machine. These ports are varied in number as the materials contained in the stuff vary, but it will be sufficient to describe three, as any beyond this number could be easily introduced by attending to the same principles. The first or largest port will always be that delivering the lightest material; this port having to deliver the largest quantity occupies the entire width of the end of the machine, and its level below what he may call high-water mark is nicely adjustable by a slide and screw; all that remains on the top when the stuff arrives at this wear is cast over it and flows with the water over another sieve, which is slightly inclined, and forms the top of a second tank or hutch. At a short distance in front of the dash of water and stuff striking this second sieve there is a very slight bar or stop to the progress of the sand over its surface, which detains the particles nearest the sieve long enough for them to get thoroughly washed, and if fine enough driven through the meshes of the sieve into the slime hutch, while the coarse and light particles which are all too large to pass through the sieve will be forced on by the water over the bar and delivered into the tram wagons, or other means for carrying it away. The object of the inclined sieve and hutch just described is to save the "slimes," or portions of rich ores, so finely divided as to remain suspended in the water and get entangled with the waste; these particles are driven through the meshes of the sieve by the fall of water, as above described, and are subject to a further washing in the hutch by the current of water which at first flows down perpendicularly under the bottom of vertical partition across the hutch, situated under the stop on the surface of the sieve, and afterwards rises through the meshes of the remainder of the sieve to assist in carrying off the waste; during the descent of the current the heavy part of the dust receives a downward motion, which its gravity continues, while the fine particles of waste having less gravity remain suspended and pass off with the water.

The second port in simple combinations is devoted to the delivery of such particles as have a medium specific gravity, and generally consist of pieces which contain both ore and waste and require further crushing to separate them; this port is situated on one side of the machine towards the delivery end, and the stuff arrives at it under the bottom of a perforated partition, which is adjusted to such a depth in the mass of stuff on the sieve as will stop all the waste.

The third port is devoted to the delivery of the rich ore, and the way to it is under a partition similar to the one above described, but adjusted to a lower level. These partitions will be differently arranged according to the character of the stuff under treatment, but the ultimate adjustment, dependent on the percentages of each material contained in the sand, is effected by making the port through a metal slide, which can be raised or depressed by a screw, so as to make it deliver the exact quantity due from the stuff under treatment.

TIN, TERNE, AND OTHER COATED PLATES.—Mr. E. MADGE, of Swansea, says the chief object of his invention is to impart to black plates (whether composed of iron or steel) an even coating of tin or other metal, or a mixture of easily fusible metals, in an economical manner, and without the waste of material and labour attendant on the coated plate taking up oil or grease on its surface. In finishing plates according to this invention, he passes the plates through a bath of molten metal, covered with any suitable flux, to prevent oxidation and assist in the union of the coating metal with the iron or steel plate; or he takes a plate already coated in any of the ordinary ways and passes it through the machine to finish it. Each plate is guided into, through, and out of the bath by means of driven rollers and guide bars. The delivering rollers, or the last pair (if more than one pair is used), is so arranged with respect to the level at which the metal is to be maintained as to ensure that the bite of these rollers shall be below the surface of the metal, and these rollers may be formed with annular grooves to allow of the metal flowing freely to the plate. This position of the delivery rollers is important in an economical view, as the plate is thereby prevented from taking up the flux on its surface, and thus the flux instead of being wasted will be economised, and the coated plate will not need the customary cleaning. The rollers while delivering the plate from the bath will also keep the plate clear of oxidised metal. But inasmuch as plates drawn out of the coating metal in this manner have a tendency more or less to granulate the coating metal on the face of the plate, if it be desired to have a plate free from this defect, Mr. Madge arranges to keep a supply of oil or other flux over the coating metal between the rollers, which will materially reduce this tendency. To ensure an even coating to the plate, he so speeds the delivery of the plate that the rate at which it rises from the bath shall correspond with the drain flow of the molten metal down the coated surfaces of the plate. By this means he is enabled at one operation, and without the use of squeezing rollers or other mechanical contrivance, to gauge or determine the amount of coating metal that the plate shall receive.

STEAM GENERATORS.—To carry out his invention, Mr. T. MILLS, of Crescent-road, Plumstead, constructs the fire-box of a boiler (preferably of the upright form) of a coil or coils of tubes or tubing enclosed in a case, the fire being contained within the said coil, the bottom of which coil is connected by a tube or tubes brought down outside from the upper part of the boiler, at the lower end of which tube or tubes is fixed a self-acting valve, placed in a horizontal position, which allows the water to pass on into the coil, the expansion of which water, through coming in contact with the heated tubing, closes the valve after it has passed through it (and thereby prevents a backward flow of water through the outside tube), and forces the water and steam on through the coil into the upper part of boiler again, after which the valve again opens in consequence of the downward force of the water in the outside tube, thereby creating a perfect circulation through the coil, the discharge end of the coil being brought up inside through the bottom of the upper part of the boiler above the water level. He can also supply the coil with water by means of a pump worked by the engine (the stroke of which pump can be altered according to the quantity of water required to supply the boiler), and cutting off the other supply of water from the coil by means of a cock fixed in the outside tube connecting the upper part of the boiler with the lower end of the coil, thereby feeding the boiler with water through the coil without reducing the volume of steam in the least degree. This fire-box can be formed of tubing made of iron, brass, or copper of any size or shape, which being screwed or bolted into the bottom of the upper part of the boiler can be easily removed for repairs, &c., when required. Mr. Mills can also make the grate or fire-bars of tubing which would form part of the coil. In a boiler of this description steam can be raised immediately the fire is lighted by admitting only a small quantity of water into the coil through the outside tube which connects the upper part of the boiler with the lower end of the coil.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Lectures on Mining at the Royal School of Mines—Mineral Resources of the Mississippi Valley—The Patent Laws—The South Staffordshire and Shropshire Coal Fields (*continued*)—Geological Notes on Coal (*continued*)—Mining, a Source of Wealth and Commercial Prosperity—Mining in India—Slate Quarry in Westphalia—Separating Silver from Lead, &c.—Meetings of Mining Companies: St. John del Rey, Gonnesa—Foreign Mining and Metallurgy—Monster Steam-Boiler—Workers in Science, and Science Critics, &c.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JUNE 25, 1869.

COPPER.	£	s.	d.	£	s.	d.
Best selected..p. ton	76	0	0-	—		
Tough cake and tile	74	0	0-	—		
Sheathing & sheets.	78	0	0-	—		
Bolts	78	0	0-	—		
Bottoms	80	0	0-	—		
Old (Exchange)	65	0	0-	—		
Burra Burra	77	0	0-	78	0	0
Wire.....per lb.	0	1	0	- 0	1	0½
Tubes	0	0	11½	- 1	0	

BRASS.	Per lb.
Sheets .....per lb.	9d.- —
Wire ..... „	8¼d.-8½d.
Tubes ..... „	10½d.-11½d.
Yellow Metal Sheath.p. lb.	7d.- —
Sheets ..... „	6½d.-6¾d.

SPELTER.	Per ton.		
Foreign on the spot	£21	0	0- —
„ to arrive..	21	0	0- —

ZINC.					
In sheets	£24	10	0-	25	0 0

TIN.			
English blocks	127	0	0
Do., bars (in barrels)	128	0	0
Do., refined	133	0	0
Banca	130	0	0
Straits	£128	0	0-129 0 0

TIN-PLATES.*	Per box.				
IC Charcoal, 1st qua.	1	6	0-	1	8 0
IX Ditto, 1st quality	1	12	0-	1	14 0
IC Ditto, 2d quality..	1	5	0-	1	6 0
IX Ditto, 2d quality..	1	11	0-	1	12 0
IC Coke	1	2	6-	1	4 0
IX Ditto	1	8	6-	1	10 0
Canada plates, p. ton..	13	10	0-	—	
Ditto, at works	12	10	0-	—	

* At the works, 1s. to 1s. 6d. per box less.

IRON.	Per ton.				
Bars Welsh, in London	6	15	0-	—	
Ditto, to arrive	6	15	0-	—	
Nail rods	7	2	6-	7	5 0
„ Staffd. in London	7	10	0-	8	0 0
Bars ditto	7	7	6-	8	0 0
Hoops ditto	8	0	0-	9	15 0
Sheets, single	9	0	0-11		0 0
Pig No. 1, in Wales..	3	15	0-	4	5 0
Refined metal, ditto..	4	0	0-	5	0 0
Bars, common ditto..	6	0	0-	6	5 0
Do. mrch. Tyne or Tees	6	10	0-	—	
Do., railway, in Wales	7	5	0-	7	10 0
Do., Swed. in London.	9	17	6-10		0 0
To arrive	10	0	0-	—	
Pig, No. 1, in Clyde..	2	11	6-	2	18 6
Do. f.o.b. Tyne or Tees	2	9	6-	—	
Do. Nos. 3,4, f.o.b. do.	2	6	6-	2	7 0
Railway chairs	5	10	0-	5	15 0
„ spikes	11	0	0-12		0 0
Indian Charcoal Pigs, in London, p. ton..	6	0	0-	6	10 0

STEEL.	Per ton.				
Swed., in keg (rolled)..	—		—		
„ (hammered)	14	15	0-15		5 0
Ditto, in faggots	15	15	0-16		0 0
English, spring	19	0	0-23		0 0
QUICKSILVER (p. bottle)	6	17	0-	—	

LEAD.	Per ton.				
English Pig, com.	19	0	0-	—	
Ditto, LB.	19	10	0-	—	
Ditto, WB	20	10	0-	—	
Ditto, sheet	19	15	0-	—	
Ditto, red lead	20	0	0-20	10	0
Ditto, white	27	0	0-30	0	0
Ditto, patent shot	22	10	0-	—	
Spanish	18	10	0-	—	

REMARKS.—The Metal Market has presented a rather more quiet appearance during the past week, and rather less activity in business has been apparent; still, this may be regarded as only one of the variations incident to the metal trade, which so frequently shows changes from one week to another in the condition of the market; and it is by no means improbable that the next week may manifest a much more active state of things. It is satisfactory to find that the directors of the Bank of England, at their weekly meeting, on Thursday, reduced the Bank rate of discount to 3½ per cent. It had been anticipated ever since the reduction to 4 per cent., a fortnight ago, that, unless any unforeseen circumstances should arise to prevent the movement, a further reduction would take place very soon. This increased easiness in the money market is very favourable at the present time, and will tend to encourage ecommercial operations, and will doubtless have a very good effect upon the metal trade generally, and lead to extended business in metals, and, perhaps, induce a little more speculative feeling to arise in the market, which is now in want of something to cause rather more animation. Prices have again remained without much alteration, and until a more active demand springs up we cannot expect to see any great change; nevertheless, there are indications, in the greater firmness in the prices of some metals, that as soon as an improved demand arises advances will take place. The opening of the first maritime port belonging to the North German Confederation is a matter of considerable interest, as it is a point upon which they appeared to have been determined for a long period; and we may hope that the result will be found fully to answer the expectations that have been entertained regarding it, and that it may add to the properity of that great power. We also hope that it will not be without some benefit in a commercial point of view, and that it may prove advantageous in the increase of mercantile operations.

COPPER.—Advices have been received from Chili, dated May 17, which state the charters during the fortnight to be 2000 tons; since the receipt of which the market has become rather more quiet than it was previously, and ore is now quoted at 13s. 9d. per unit, and Chili bar at 68*l.* to 68*l.* 10s. per ton cash. Transactions in English during the week have been very limited.

IRON.—The Preliminary Meeting of the Ironmasters of South Staffordshire and East Worcestershire was held at Birmingham on Thursday. There was a good attendance. A resolution was unanimously passed to adhere to the current scale of prices for all descriptions of manufactured iron. At very few of the works are all the mills and forges in full operation, but the trade is unquestionably in a better state than it was three months ago. In Welsh there is an absence of anything like activity in the home demand, but this is chiefly owing to the end of the quarter, although the trade is not in the condition that is desirable, yet there is some advance, and the prospect for the future looks rather brighter. The exports continue large, principally to the Russian and American markets, several vessels being now loading for New York, Cronstadt, &c. Bars are in moderate request. In Swedish iron the demand is not so active as it was. In Scotch pig-iron there has been a considerable business done in warrants during the week, but with only slight variations in prices. The last price received from Glasgow was 50s. 6½d. cash.

LEAD.—No improvement in the demand has yet taken place, and, consequently, prices are somewhat easier.

TIN.—The market for Straits has fallen off during the week, and prices have declined considerably, business having been done at 128*l.* cash, and for small parcels at 129*l.* cash, and for forward delivery at 125*l.*, at which prices there still remain sellers. The market, however, is very dull, and but little business is doing.

SPELTER.—The activity which has lately characterised this metal appears now to have passed away for the present, and the market remains inactive, at 21*l.* for parcels on the spot.

TIN-PLATES.—There is a slight falling off in the purchase of coke qualities, and quotations are not so firm as they were.

STEEL.—The demand is not so good.

QUICKSILVER.—Transactions are very limited.

THE IRON TRADE—(Griffiths' Weekly Report).—We have no change to report in the state of the market this week. The Preliminary Meeting, held at Birmingham, on Thursday, fixed the price of iron for the next quarter at the same rate for bars which has ruled during the last 12 months—all other kinds to follow the usual scale. The decision of the Preliminary Meeting in regard to price has created no surprise, but, on the contrary, given general satisfaction. The best informed people in the trade could see no other satisfactory conclusion for the meeting to arrive at. The demand for angle bars continues brisk. Several works on the Tees have good contracts on hand at remunerative prices for this kind of iron. It is not at all improbable that buyers of bars will remain passive until the Birmingham quarter-day, when merchants' stocks must be replenished, which will give greater activity to the trade in North and South Staffordshire. There is no speculative demand for iron; indeed, in the present state of the market, there appears no inducement to lay in heavier stocks than the ordinary requirements of trade demand, and as it is now settled that no advance in the price of bars is likely to take place for the present, we expect the market to remain inanimate until the Birmingham meeting, on the second Thursday in July. It is very probable that the decision of the North Staffordshire masters will be an endorsement of the declaration of the Southern meeting, on Thursday last. With regard to the future prospects of the trade, it is impossible to say what effect the demand the next two months may have on prices. If the demand increases considerably prices may look up, but all depends upon the demand, and unless foreign demand for bars is experienced to a much greater extent than we have at present, as the summer advances there will be a difficulty in keeping the second-class makers of South Staffordshire supplied with orders, even at present low prices. The rail trade is good, and for summer deliveries the makers have their books quite full of orders, and the prospects for this kind of iron are rather improving than otherwise, and undoubtedly where deliveries are required promptly, higher prices must be paid for all new contracts. The directors of the Bank of England, at the court held on Thursday last, reduced the rate of discount from 4 to 3½ per cent. No doubt this reduction in the price of money will in the end offer greater inducements to capitalists to render facilities to railway companies and others who absorb large quantities of iron. The market for tin-plates is flat, with no moderate prospect of improvement.—75, Old Broad-street, London, June 25.

THE COPPER TRADE.—Messrs. James and Shakspeare—With the exception of 100 tons regulus on spot, and 320 tons for arrival at Liverpool, at 13s. 9d., there have been no sales reported of furnace material. Bars continue in good request, but there are so few lots offering that it is exceedingly difficult to execute orders except at full rates; the sales, from and including Friday last, amount to about 600 tons, of which about 400 for cash at 67*l.* 15s. to 68*l.* 5s., and the remainder with three months prompt at 69*l.* 10s. to 70*l.* per ton. Birmingham consumers have taken a large portion of the cash bars sold within the last month or six weeks, and in fact the demand from that quarter has become an important element in the trade; two years ago the purchases for home consumption, even including those made by smelters, were few and far between, but now Birmingham takes fully 600 to 700 tons per month, and the quantity seems to be fast increasing. Whether this new demand detracts from the quantity of English raw used in this country is difficult to ascertain, but we rather doubt if such be the case, for the smelters in a dull market generally complain more of the absence of enquiry for manufactured than of the want of orders for tough and select: one thing, however, is certain, that through these operations the English manufacturers are fast losing the control they used to exercise over the trade, and their movements are rather based on the operations in foreign copper than on the business they are doing themselves. In fact we are now seing in this metal what has been for some years past the case in tin—that the course of the market is more guided by the transactions of the imported article than by those which take place in our home produce; of course with some parties this belief has not yet gained ground, and they still look to the rise or fall of English as the index of the trade, rather than as a sequence of events which have previously taken place. Only a small business has been reported in Chili ingots, at 74*l.*, delivered in Birmingham, there not being yet much inducement in price as compared with tough and select. Yesterday telegrams were received giving the Chili charters for the first fortnight in May as about 1700 tons in bars and ingots, and 400 tons in ore and regulus; this news has rendered the market rather quiet at our list values. A few lots of Australian reported at the quotations of the previous week. The rates of English are nominally unaltered, but smelters are asking an advance of 1*l.* to 2*l.* per ton on raw sorts.

Messrs. Vivian, Younger, and Bond (June 25) write—The slight advance in prices reported last week appears to have rather curtailed business, for though the quantity of copper offering is still small, there has been less disposition to buy. Some 300 tons of bars were done early in the week at 68*l.* 10s. cash, up to 69*l.*, 70*l.* with extended prompt; these prices, however, would be scarcely obtainable at the close. A few trifling transactions have taken place in ores and regulus, at from 13s. 6d. to 13s. 9d., and there are large buyers at the former price. Moderate orders for tiles and manufactured have been given out to the smelters. The holders of Wallaroo ask 78*l.* cash; buyers do not offer even 77*l.* 10s., and so, with the exception of one lot bought for speculation at 79*l.* 10s., three months' prompt, no business has transpired. The telegram from Chili, *via* New York, received yesterday, advised charters up to May 16, as 1700 tons in bars and ingots, and 300 tons fine in ores and regulus. The price, freight, and change remained without alteration. The actual export in fine copper from Chili in April was 6250 tons, making for the first four months of this year 21,800 tons, as against 12,500 tons in the same time last year, and 13,750 tons same time 1867.

Messrs. Henry Rogers, Sons, and Co.—There are small transactions in foreign from day to day, principally speculative, however, and bars find purchasers at 70*l.*, three months open. The demand for English copper does not increase, but holders are firm, and should we for the next month or so have advices of decreased supplies from Chili, an improvement may be looked for. Prices in the East are, unfortunately, declining, and as the exports thither have not fallen off to any degree, as compared with last year, we cannot hope for any large demand from that side.

THE TIN TRADE—*Telegram:* Penzance, Friday.—The standards of tin ores and prices of metal have been lowered, and are now as follows:—Ores, common, 110s.; superior common, 111s.; fine, 112s.; superior fine, 116s. Metal: common, 123s.; refined, 131s.

THE MINING SHARE MARKET has again been very inactive, with prices almost nominal. The mines mostly dealt in have been West Chiverton, Chiverton, Chiverton Moor, Van, Van Consols, Grenville, Rosewall Hill and Ransom United, Prince of Wales, Wheal Uny, New Lovell, West Frances, Great Vor, East Lovell, Frontino and Bolivia, Don Pedro, and a few others.

The Standard declined on Thursday 15s. per ton.

West Chiverton, 46 to 47; the mine continues to look well, and the points in operation, without calculating stopes and pitches, are worth 330*l.* per fathom. In cutting through the lode in the 110, west of Burgess's, under No. 1 winze, the lode is worth 50*l.* per fathom; the 120, west of Hawkes's, on south part, is worth 30*l.* per fathom, and the 120, east of Hawkes's, 20*l.* per fathom. Great Vor, 14½ to 15½; at the meeting the cash balance in favour of the company was 6131*l.*, and a dividend of 2954*l.* (10s. per share) was declared, leaving 3177*l.* in hand. Marke Valley, 8¼ to 8½; the ends on Rosedown lode are worth, in the aggregate, 15 tons of ore per fathom. East Caradon shares have advanced to 7½, 8; we hear there is no change or improvement in the mine. Prince of Wales, 24s. to 26s.; the cross-course has been cut through in the 65, and the lode, as far as seen on the other side, is worth 20*l.* per fathom. Carn Brea, 12 to 14; Chiverton Moor, 2¾ to 3¼; Chontales, 1¼ to 1½; Cook's Kitchen, 13½. At Chiverton Valley, in driving the 65 west, there is a very promising and strong lode. The shaft will be down to the 75 within a fortnight; this is the level where a course of lead which has dipped west into it from Chiverton Moor is expected to be found. Spearn Moor, 20 to 21; at the meeting a dividend of 242*l.* (1*l.* per share) was declared. The profit on the quarter was 412*l.* 9s. 1d., leaving a small balance in hand after payment of the dividend. Holmbush and Kelly Bray, 4 to 4¼.

At Wheal Seton meeting, the accounts showed a loss of 113*l.* 4s. 2d. on two months' working, and a balance in hand of 1421*l.* 5s. 3d. The 190, west of Tilly's, will produce 2 tons of copper ore per fathom, and is now 15 fms. from the rich ore ground discovered in the 180. In the 180, from 45 to 50 fms. of good ore ground, averaging 5 tons per fathom, have been gone through. A winze going down from the 180, from 9 to 10 fms. before the 190 end, and 15 from the rich ore ground, is worth 4 tons per fathom. Anglo-Brazilian, 10s. to 12s. Don Pedro North del Rey, 4⅜ to 4⅝; the advices show a profit of 5298*l.* 9s. 1d. on the month of April; the total return for that month was 20,218 oits., or 2330 ozs. of gold. Up to May 15 the return was 6766 oits. Devon Great Consols, 150 to 160; Drake Walls, 15s. to 20s.; East Lovell, 10⅛ to 11; East Grenville, 4⅛ to 4⅜; Frank Mills, 3⅞ to 4⅛; Frontino and Bolivia, 24s. 6d. to 25s. 6d.; Great Laxey, 18½ to 19, ex div. of 10s. per share; Great Western, 2 to 2¼. Yudanamutana, 1¼ to 1¾. The directors' report, preparatory to the meeting called for the 28th inst., states that five furnaces have been erected, and an abundance of fuel obtained. The accounts, which it is stated have been made out for the purpose of showing quite clearly the operations of the year ending November 30, 1868, are made to show a profit on the year of 7643*l.* 3s. 6d.; but to those who have been accustomed in mining accounts to consider as profit the difference between the produce sold and the costs and expenses of production these accounts will not be either very intelligible or satisfactory, so far as the profit is concerned. The actual sales in the year appear to have been 533 tons of copper, for 36,020*l.* 9s. 1d.; 31 tons ore, 646*l.* 7s. 3d.; live stock, stores, &c., 676*l.* 12s.: total, 37,343*l.* 8s. 4d. Colonial expenditure, 34,319*l.* 3s. 4d.; London and other expenses, 1878*l.* 9s. 7d.: total, 36,197*l.* 12s. 11d. To make up the profit, however, to the sum of 7643*l.* 3s. 6d., credit is taken for increased value of buildings and live stock, 1790*l.* 2s. 4d.; dead work, 450*l.*; difference in the value of stock in hand, especially in regard to charcoal, 1450*l.* 18s. 3d. In reference to the forged telegram, which created such a sensation a few months ago, and caused a rise in shares from 1⅝ to 6 each, the directors have the satisfaction to state that the perpetrators have been discovered, and a prosecution is directed against them at Sydney, where the offence appears to have originated. This matter, however, is the subject of a report of the committee appointed for the purpose of assisting the directors in investigating the matter of the telegram, but the report of the committee has not been communicated to the directors, nor have they been favoured with a copy of it. Herodsfoot, 44 to 46; New Lovell, 32s. 6d. to 35s.; North Crofty, 12s. 6d. to 15s.; North Roskear, 4 to 6; North Treskerby, 11s. to 13s.; Providence Mines, 35 to 37;

Rosewall Hill and Ransom, 27s. 6d. to 28s. 6d.; South Condurrow, 27s. 6d. to 30s.; South Frances, 14 to 16; Tincroft, 16 to 17; West Caradon, 4 to 5; West Drake Walls, 5s. 6d. to 7s. 6d.; West Frances, 51 to 53; West Seton, 170 to 180; Wheal Buller, 12 to 14; Wheal Chiverton, 3⅜ to 3¾. Wheal Grenville, 52s. 6d. to 55s.; the "dropper" at the 90 cross-cut is worth 12*l.* per fathom for tin, and can be driven upon for 5*l.* per fm. Wheal Kitty (St. Agnes), 4¾ to 5¼; Wheal Margaret, 9 to 11; Wheal Mary Ann, 14 to 15; Wheal Trelawny, 7 to 8; Wheal Uny, 3¼ to 3¾; and Van, 37½ to 38¼.

The tone of the Market for Mine Shares on the Stock Exchange during the week has been firm, and a good demand has been maintained. Van shares have further improved, and close 37½ to 38¼; the shaft has been completed to the 30, and the various points of operation are as rich, or richer, than ever. The sale for the month will show an increase. West Chiverton shares are steady at quotations. Great Vors are 14¾ to 15¼. East Lovell shares have risen to 10¾, 11. Devon Great Consols, 150 to 160; Prince of Wales, 23s. 6d. to 24s. 6d. St. John del Rey, 15 to 15½, being rather firmer. Don Pedro shares are steady at 3⅞ to 4 prem. Rossa Grande, 7-16th to ½ prem, and enquired for. Taquaril shares are marked in the daily official List of the Stock Exchange, and are in good demand at 3s. to 4s. prem. Anglo-Brazilians rose to ½ prem., but close 1-16th dis. to par. Chontales, 1⅞ to 1½; Port Phillip, 1⅝ to 1¾. Frontino and Bolivia, 24s. 6d. to 25s. 6d.; a considerable business has been done in these shares. Yudanamutana, 1½ to 1⅝; General Brazilian, 4s. to 5s. The changes otherwise are unimportant.

IRISH MINE SHARE MARKET.—In the beginning of this week dealings in mining securities were not numerous, and prices remained nearly stationary at last week's quotations. But these last two days have, in consequence of very favourable news from London on the state of the Money Market there, been productive of a rise in Wicklow Copper shares (2*l.* 10s. paid) of 3-16ths for cash, having also been done at 9*l.* 15s. for the middle of next month. Mining Company of Ireland shares advanced 10s., or to 9*l.* 15s. (7*l.* paid), but the price induced sales, so that they leave off rather weak at this price. Cape Copper shares also slightly rose, having changed hands at 13*l.* 7s. 6d. Killaloe Slate Quarry shares were last dealt in at 16s. 9d.

The valuable silver-lead mine, known as PERRAN WHEAL VYVYAN, and situated in the parish of Perranzabuloe, Cornwall, is about to be worked by a cost-book company, consisting of 6000 shares, 10s. paid. The property is held under a lease of 21 years from Sir R. Vyvyan, Bart. The sett is large, having 600 fathoms on the course of the lodes. It possesses all the advantages of the most prosperous silver-lead mines in the county of Cornwall, being situate in the clay-slate formation of the rich Chiverton district, and of the same ore-bearing character as Old Shepherds and East Wheal Rose Mines, both of which returned enormous profits. This sett comprises several lodes of silver-lead ore, four of which, to all appearance, require but a comparatively small outlay to render them productive. The property has been favourably reported upon by Capts. Jas. Trewartha, T. Glanville, and W. Tregay; and the names of the officers appearing on the prospectus are Mr. G. H. Cardozo, as secretary, and Mr. F. W. Mansell, as broker.

At Redruth Ticketing, on Thursday, 1888 tons of ore were sold, realising 9563*l.* 13s. 6d. The particulars of the sale were:—Average standard, 93*l.* 17s.; average produce, 8⅝; average price per ton, 5*l.* 1s. 6d.; quantity of fine copper, 157 tons 5 cwts. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
June 3 ..	2131	£100 3 0	6½	£3 16 6	11s. 7½	£58 4 0
„ 10 ..	1443	102 13 0	6⅜	3 10 6	11 6½	57 14 6
„ 17 ..	2718	105 3 0	6	3 11 6	11 10½	59 7 6
„ 24 ..	1888	93 17 0	8⅝	5 1 6	11 11	59 11 0

Compared with last week's sale, the decline has been in the standard 15s., and in the price per ton of ore about 1s. 3d. Compared with the corresponding sale of last month, the advance has been in the standard 1*l.*, and in the price per ton of ore about 1s. 8d.

At Spearn Moor Mine meeting, on Monday, the accounts showed a profit of 412*l.* 9s. 1d., which, after deducting the debit balance at the last account of 121*l.* 10s., left a credit balance of 290*l.* 19s. 1d. A dividend of 242*l.* (1*l.* per share) was declared. Capts. James Bennetts and Charles Ellis say—"From the extent of tin ground laid open, and by continuing our present system of tut-work operations, we can safely calculate that our returns will be sufficient to ensure satisfactory dividends for years to come, at the present price for tin."

At the Prosper United adjourned meeting, on Tuesday, the general statement of accounts showed a liability of 8411*l.* 11s. 5d., against which there are assets (including 4088*l.* 6s. 11d. from the estate of Mr. Wescomb, the late purser) amounting to 6005*l.* The report stated that fair progress is being made in sinking Hand's engine-shaft; the ground is getting more mineralised, and they fully expect a good lode in the 110 fm. level. The lode in the 90 west is increasing in size and value, being now 3 ft. wide, worth 12*l.* per fathom. The lode in the 80 west is rather small at present, but it has a promising appearance, and is producing saving work for tin. The stopes and pitches are producing about the usual quantity of tin towards the next sale, which is going on satisfactorily. The machinery is in good order. It was mentioned that the dues were in arrear about 1000*l.*, which was not included in the liabilities embraced in the statement submitted. A committee was appointed to investigate the company's affairs, and to report to an adjourned meeting, to be held on the mine, on July 27. It was agreed that the expenses of the committee, who were authorised to call in the assistance of an accountant, should be paid by the company.

A meeting of Wheal Grenville adventurers was convened for the 24th inst., and at the time appointed there were not sufficient shareholders present to form a meeting. A call would not have been necessary, notwithstanding 515 shares, upon which a considerable amount of calls was owing, were forfeited in March last. The number of shares now afloat is 5206, the total number absolutely forfeited to the company being 791 shares. The agents report that the returns of tin from the old lode can be maintained, and in the 90 fm, level cross-cut north a branch has been intersected worth 12*l.* per fathom for tin. The main part of the lode they expect to reach shortly, and from the indications in the cross-cut they think it will be found good. Should such be the case the mine would at once make profits, as the company are provided with all the necessary machinery for returning a larger amount of tin, and the lode could be cut at four other levels in seven months at farthest.

At Great South Tolgus Mine meeting, on Tuesday, the accounts showed a balance due to treasurers of 59*l.* 9s. 5d. A call of 6s. per share was made. Capt. John Daw says—"We are raising a great deal more tinstuff than we can stamp, and, if required, could still increase; so that I would recommend the erection of a 32-head stamps, to be attached to the winding-engine, as we could draw by day and stamp by night. This, with the water-stamps, I think we could return from 12 to 14 tons of tin per month. I estimate the cost of erecting the stamps, adding another boiler to the winding-engine, and laying out the floors, at about 700*l.*"

At the Ebbw Vale Steel, Iron, and Coal Company meeting, yesterday (Mr. Charles K. Anderson in the chair), the report of the directors and balance-sheet were received and adopted, and a dividend was declared of 10s. per share, free of income tax, which in addition to the interim dividend of 7s. 6d., paid in January, will leave a balance of 6259*l.* 2s. 5d. to be carried forward to next account. Details in another column.

At the St. John del Rey Mining Company meeting, on Wednesday (Mr. John Hockin in the chair), the report of the directors was unanimously received and adopted. Power was taken to draw from the reserve fund from time to time as the necessities of the mine may require. Details will be found in another column.

At the Almada Mining Company meeting, on Wednesday (Mr. W. Shairp in the chair), the directors and auditors were re-elected. A telegram was daily expected from the mine, Mr. Power have proceeded thither to complete the purchase, provided reports be confirmed by Mr. Bridge. Letters may be expected in about three weeks. Details in another column.

At the Nerbudda Coal and Iron Company extraordinary general meeting, on Tuesday (Mr. Wilde in the chair), held "for the purpose of considering, and if deemed expedient, of confirming certain special resolutions passed at the ninth ordinary general meeting of the company, held on June 2," the resolutions were unanimously confirmed.

At the Australian United Gold Mining Company meeting, on Wednesday (Major Jelf Sharp in the chair), it was stated that the meeting was called merely to comply with the Act of Parliament, and, as stated in the notice convening it, they proposed to adjourn it. It had been anticipated that Mr. Lamb would shortly be in this country, as he had obtained leave of absence, intending to visit England (at his own expense), in order to settle some private business; and the directors had thought that they and the shareholders might have taken the opportunity of conferring with him whilst he was here. They now found that Mr. Lamb was not likely to come away so soon as expected. They proposed to adjourn the meeting until Oct. 20, by which time they would have received several monthly accounts, and hoped to be able to report the commencement of crushing operations. The adjournment was unanimously agreed to, and the meeting separated.

The Bank of England return for the week ending on Wednesday evening showed in the ISSUE DEPARTMENT an increase in the "notes issued" of 868,930*l.*, which is represented by a corresponding increase in the "coin and bullion" on the other side of the account. In the BANKING DEPARTMENT there is shown an increase in the "public deposits" of 359,078*l.*; in the "seven day and other bills" of 2201*l.*, and in the "rest" of 5602*l.*: together, 366,881*l.*, and a decrease in the "other deposits" of 482,446*l.*—115,524*l.* On the other side of the account there was an increase in the "public securities" of 66,207*l.*, and a decrease in the "other securities" of 521,386*l.*=455,179*l.*: leaving a total increase in the reserve of 339,615*l.*

Vice-Chancellor Malins has appointed July 12 to settle the list of contributories of the Aberdare Merthyr Steam Coal Company (Limited), creditors of which are required to send in the particulars of their claims by July 10 to Mr. Henry Dever, of Lothbury, the official liquidator.

Creditors of the Colcharton Copper Mining Company (Limited) are required to send the particulars of their claims to the secretary to the liquidators by July 4.

Mr. Olinthus Gregory Downes having resigned the actuaryship of the Economic Life Assurance Society, his present state of health rendering him unable to continue the duties of the office, the directors have appointed as actuary Mr. Richard Charles Fisher, who has been for many years past with the Crown Life office.

The report of Charles Cammell and Co. (Limited), steel and iron merchants, of Sheffield and London, recommends the payment of a dividend of 4*l.* per share for the past year, and the increasing of the reserve fund to the amount of 69,345*l.* 1s. 10d.

COAL MARKET.—The market has been inactive all through the week, the moderate arrival of 93 ships proving more than sufficient for the wants of the trade. Prices generally quote a reduction of 3d. Haswell Wallsend, 17s.; Lambton Wallsend, 16s. 9d.; Eden Main, 15s. 6d.; Kelloe Wallsend, 16s.; Gosforth Wallsend, 15s. 3d.; Hastings Hartley, 14s.; Holywell Main, 14s. 6d. Unsold, five cargoes: 20 ships at sea.

COAL IN LONDON.—It appears that the average price per ton of the coal received in London, in the nine years ending 1868, inclusive, was as follows:—1860, 20s. 1d.; 1861, 19s. 6d.; 1862, 17s. 7d.; 1863, 18s. 2d.; 1864, 20s. 1d.; 1865, 20s. 2d.; 1866, 20s. 1d.; 1867, 20s. 8d.; and 1868, 18s. 7d.

THE COAL TRADE IN THE EASTERN COUNTIES.—The shipping interest at some of the small eastern ports is dissatisfied with the rates charged for the conveyance of coal to the eastern coast, by the Great Eastern Railway Company. The dissatisfaction appears to prevail with the most intensity at Great Yarmouth and Ipswich, where some firms talk of an appeal to the Board of Trade. It remains to be seen whether their threatened action will come to anything. There is a natural antagonism between the coasting shipping trade and the railway company, which appears determined to crush down all opposition by conveying coal to the coast at a very low tariff. The Great Eastern is making good progress with its general coal traffic.

GREAT VOR.—The quarterly general meeting of shareholders was held on Wednesday, at which Mr. George Noakes, F.G.S. (the Chairman of the company), presided. It will be seen by the details, as reported in another column, the shareholders were congratulated upon the exceedingly satisfactory position the mine continued to maintain, and also upon its encouraging prospects for the future. Although during the quarter embraced in the accounts submitted to the meeting there had been a considerable amount of additional expenditure, the committee were able to recommend the declaration of a divided of 10s. per share out of the profits realised during the three months. After the payment of this dividend (which is double the amount paid at the last meeting) a sum of about 137*l.* was left to be added to the surplus balance, thus increasing it to 3177*l.*

GREAT ROCK.—An important discovery has been made close to the surface, whilst the men were laying open the rock, or quarry, to obtain stone for the purpose of building the wheel-pit.

MINING IN WALES.—Mr. Absalom Bennett, who has had so much practical experience in lead mining, is about to take a tour of inspection with some very influential capitalists throughout the Principality of Wales in a few days. Mr. Bennett was one of the principal pioneers in discovering more mines in Wales and Cornwall during the last 20 years than any other practical geologist, and we wish him every success in so laudable an expedition. Mines, like fish in the sea, can only be discovered and obtained by the skill and industry of man; and we are told that "Nothing venture nothing gain;" so we may fairly expect that our readers will have the opportunity of benefitting by the valuable information contained in the communications which Mr. Bennett will forward for publication in the Journal.

CONFERENCE ON PATENT LAW REFORM.—At the invitation of the President (Lord Richard Grosvenor, M.P.) and Council of the Inventors' Institute, a Conference on Patent Law Reform, and on the action to be taken in opposition to the measures now in progress for the Abolition of Patent Rights, was held at 4, St. Martin's-place, Trafalgar-square. The meeting was numerously and influentially attended, and in a very able address his Lordship observed that there were two sources from which inventors could be remunerated—from the protection afforded them by the operation of the Patent Laws, and from the granting to them of remuneration from the State. They believed the Patent Law System was that which gave inventors their due in the most satisfactory manner, and they certainly had not confidence in grants from the State.—Mr. John Imray then read a short paper, attacking the press and the opponents of the Patent Laws, and Mr. H. Dircks, subsequently, read some extracts from a letter on "Patent Monopoly," which he is about to publish. Both gentlemen spoke much of their logical inferences and the illogical arguments of their opponents, but from the evidence they afforded that they had not had the advantage of an acquaintance with Aristotle, Whately, Aldrich, or any other writers of that class, they were listened to with much impatience.—The President, in opening the discussion, remarked that although the council had convinced themselves that it was undesirable to abolish the Patent Laws, it must not be supposed that they believed them to be incapable of useful or practical amendment.—Several resolutions were proposed and carried, affirming the inventor's claim to remuneration equally with the author and artist, and with that view upholding the existing system, while experience had proved that capital would not be embarked in new inventions unless a profitable return was insured by operation of law; that by a good system of Patent Law trade and industry would be largely benefitted, as it would stimulate and incite inventive genius to meet foreign competition, now affecting our commercial prosperity, as well as benefit working men, who were especially anxious to find themselves placed in a position to be able, not only to exhibit their inventions in public with safety, but to reap the fruits of improved education and increased applications of inventions. Messrs. Hume Williams, F. W. Campin, Truss, George Potter, Thos. Conolly, and Mr. Hemans took part in the discussion, which was of an animated character, and at the conclusion a cordial vote of thanks was given to the President for the great ability with which he had conducted the proceedings.

CRUSHING AND GRINDING QUARTZ.—Mr. L. WRAY, of Ramsgate, says his invention of improved apparatus for crushing and grinding quartz and other hard substances relates to a novel and simple arrangement of parts, whereby the crushing and grinding operations for pulverising quartz or other hard substances may be carried on in combination. The crushing and grinding instrument is formed with curved surfaces, and is made to vibrate or oscillate on a centre. In one arrangement this instrument consists of a heavy metal block, which is mounted on a horizontal rocking shaft, which is supported in adjustable bearings. This grinding and crushing block oscillates between two fixed jaws, made by preference of steel or other very hard metal or substance. On the ends of the shaft of the crushing block are keyed two weighted pendulums or levers, one on each side of the machine, and by causing these pendulums to vibrate either by hand labour or by a motive-power engine, the oscillating block will crush the substance (to be operated upon) by forcing it against the fixed jaws. The comminuted substance will fall down by its own gravity to the lower part of the space between the vibrating block and the fixed jaws, and will be ground down to a fine powder, the fineness or coarseness of the powder depending upon the adjustment of the moveable block between the fixed jaws. In another arrangement there are two vibrating or oscillating crushing blocks, connected together by a link or jointed rod, and between them is mounted an eccentric, which acts against the back of the oscillating grinding blocks and forces them forward alternately, so as to force the substance to be crushed against the fixed jaws. It is advisable in all cases to make the moveable crushing blocks adjustable vertically, so that they may be set at any desired distance from the fixed blocks, according to the size of grain to which it may be required to reduce the substance that is being operated upon. It will be understood that as the lower working surfaces of the moveable crushing blocks are curved and nearly concentric with their axes or centre of motion, a grinding action takes place on the smaller particles of the substance to be operated upon, while the larger pieces are being crushed or broken up.

TREATING ORES AND MINERALS FOR THE EXTRACTION OF TIN.—The patent of Mr. ROBERT OXLAND, of Plymouth, has for its object improvements in the treatment of ores and minerals for the extraction of tin. Hitherto the only methods of treating tin ores has been by pulverising with stamps, or by the ordinary Cornish crusher. Mr. Oxland's invention consists in the employment of grinding apparatus in the manner hereinafter described. First, for reducing raw ores of tin to fine powder after they have been partially pulverised by stamps or by a crusher; and, secondly, for grinding burnt or calcined ores in such a manner as to rub off the adhering oxide of iron and other impurities from the binoxide of tin or black tin, of the Cornish miner, without pulverising the black tin more than can be possibly be avoided. He prefers to use a mill consisting of a cast-iron pan, about 4 ft. diameter and 2 ft. deep, provided with a hollow central cone rising from the bottom to the same height as the upper edge of the pan. Through this cone is a perpendicular shaft, which carries a runner supporting a muller, on which are fastened iron plates or shoes forming the upper grinding surface which moves over a bed of cast-iron plates fastened to the bottom of the pan. The perpendicular shaft is stepped into a gland which rests upon a lever, the moving end of which is slung with a rod so held with a nut and screw that the shaft may be easily raised or depressed so as to regulate the distances of the grinding surfaces. The pan is set on a frame so that the perpendicular shaft may be driven from below by gearing at about 70 revolutions per minute. The form of mill may be varied, but for the treatment of burnt or calcined ores it is necessary that the rubbing or grinding parts should be capable of being set to work at a suitable distance the one from the other. In dressing ores of tin he proceeds in the following manner:—He breaks the ore either by hand spalling or, preferably, by a crushing-machine, to about a 2-in. cube. The ore is then hand-picked for sorting purposes and to remove waste, and is reduced to a coarse powder by stamps or a crusher. He then grinds it to a fine powder in a mill, preferably using the apparatus already described, charging the pan with from 10 to 15 cwts. of ore at a time, and continuing the grinding with water until the whole is reduced to a uniform pulp. When this is effected, sufficient water is added to make the pulp thin enough to run from the pan into cisterns provided for the purpose, from which the ore is taken and subjected to a series of washing operations until all the earthy matters are washed off, leaving the black tin in combination with metallic sulphides and arsenides, and with wolfram in the condition known as witts. The witts he calcines to remove the sulphur and arsenic, and to oxidise the metallic bases. The calcined product, after treatment with acid for the removal of copper, he passes through the pan, in the manner already described, but in grinding he takes care by the regulation of the distances of the grinding surfaces to do no more than to rub sufficiently to allow of the washing off the oxides without reducing the size of the particles of black tin. This he ascertains by taking out samples from the pan from time to time as the operation is proceeding and examining them on the vanning shovel. When sufficiently scrubbed the ore is removed from the pan, as already described, and again subjected to washing operations for the removal of the remaining impurities. If the ore now contains wolfram, he treats with soda ash, as is well understood, for the removal of the wolfram, and, after washing off the loose oxides of iron and manganese, he finally passes the ore through the pan for the removal of the last traces of adhering metallic oxides.

COPPER AGENCY, &c.

A GENTLEMAN, connected for many years with the Copper Trade in a large and important manufacturing town, is DESIROUS of ACCEPTING AGENCIES for the SALE of THIS as well as OTHER METALS, &c.

Apply, by letter in the first instance, to "Copper," care of Messrs. W. H. Smith and Son, Union-street, Birmingham.

CAPITAL is REQUIRED for the EXTENSION and WORKING of a VALUABLE COLLIERY in the WEST OF ENGLAND. Seams consist of good House, and superior Steam and Coking Coal.

Gentlemen disposed to join the Proprietors can obtain particulars on application to "Alpha," 4, Albion-grove, Stoke Newington, London.

TO SPECULATORS.

A RETIRED MINE AGENT, of great experience in Devon and Cornwall, is in a POSITION to GIVE the NAMES of FOUR PROGRESSIVE MINES, the shares of which at present prices are safe, in his opinion (founded on a perfect knowledge and reliable data), to ADVANCE HUNDREDS PER CENT. in a few months. Terms, commission on profit.

Address, "Investor," MINING JOURNAL Office, London.

WANTED, TO PURCHASE,—HEAVY BESSEMER SCRAP, for MELTING; BESSEMER RAIL ENDS; also OLD RAILWAY WAGON SPRINGS.

Address, stating quantity and lowest cash price, delivered in Sheffield or Liverpool,

THOMAS W. HAND,

STEEL CONVERTER & REFINER, & GENERAL COMMISSION AGENT,

FIG TREE LANE, SHEFFIELD.

PARTNERSHIP.

WANTED, in place of a deceased partner, in a LONG ESTABLISHED IRON FOUNDRY, BOILER YARD, and ENGINE FACTORY, in the heart of a very populous and busy district, a Gentleman with £10,000 at command, and THOROUGHLY QUALIFIED to MANAGE the MECHANICAL DEPARTMENT with or without the aid of his partner, who will be often called to travel at home and on the Continent on the firm's business.

Apply, by letter only, with real name and address, to "Mechanic," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

TO MINERS.

WANTED,—A FEW STRONG HEALTHY YOUNG MEN used to MINING WORK, and having the sum of £50 each at their disposal, the money to be employed to pay their passage, &c., to an English colony, and leave a small fund to commence with. They will have every facility afforded them through the aid of a large company to obtain permanent work and high remuneration. References as to character required.

Address—"S.," 2, Staplake Villas, Salisbury-road, Dalston, N.E.

IRON MINE WANTED.—The MINE must be in ENGLAND, near RAILWAY and WATER CARRIAGE.

Apply, by letter, addressed to JAMES ANDERSON, 7, Wellington terrace, Elgin-road, Notting-hill.

CARPENTER WANTED, used to MINE WORK, and capable of MAKING PATTERNS and MODELS. Must be willing to go out to an English Colony. To a good workman, a liberal salary will be allowed.

Address, "W. B.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

Testimonials and references required.

WANTED,—A CONDENSING BEAM OR HORIZONTAL ENGINE, for PUMPING, about 40 in. cylinder, 5 ft. stroke.

Apply to Mr. THOMAS KIRKBY, 8, Beech Grove Terrace, Leeds.

INVESTMENTS IN LEAD MINES.—The DIVIDENDS paid by LEAD MINES for the year have DOUBLED in AMOUNT in the last ten years, and are likely to continue to increase. Some of the young lead mines will probably become profitable, and rise greatly in value in a short time. Full particulars, with a MAP of the Cardiganshire and Montgomeryshire districts (including Van, Dyliffe, Plynlimmon, East Darren, South Darren, Lisburne, Cwmystwith, Cefn Brwyno, and other mines), can be obtained (price 1s.) on application to J. H. MURCHISON, Esq., No. 8, Austinfriars, London, E.C.

RHENISH PRUSSIA.

SEVERAL VALUABLE MINES FOR SALE,—LEAD COPPER, BLENDE, and IRON. The Mining Laws of Prussia give with the concession to work, an absolute right of property in the mine for ever, subject only to a royalty of 2 per cent.

Apply to Mr. YOUNGHUSBAND, 6½, Wilhelm Strasse, Bonn-on-the-Rhine.

ON SALE,—A 26½ in. diameter cylinder BEAM ENGINE (condensing), 5 ft. stroke, with fly-wheel 14 ft. diameter, pumping and winding gear connected; a double-throw pumping crank, 5 ft. 6 in. stroke; spur and pinion wheels; FOUR EGG-END BOILERS, 24 ft. long, 6 ft. diameter, with steam pipes, feed pipes, and all connections, complete.

The whole of the above is in good working order, and are within 1½ miles of the Town of Mold.

Applications, &c., to be made to Mr. PRYOR, Mold Mines, Flintshire.

IN THE TOWER FOUNDRY IS THE TYNE DEPOT FOR MACHINERY of every description for WOOD and IRONSTONE, CORN-CRUSHING, and PUG MILLS. Also, AGRICULTURAL IMPLEMENTS.

PROPRIETOR—G. HARLE, JUN.,

No. 49, MAPLE STREET, NEWCASTLE.

PURCHASERS of PORTABLE ENGINES and STEAM CRANES will do well to ask G. HARLE'S price for the same.

NOTICE.

THE CONSOLIDATED AUSTRALIAN GOLD MINES.

As the power of the Agent in London for the GREAT NORTH-WEST COMPANY, BALLARAT, expires on the 30 instant, SHARES must be APPLIED FOR on or before that day, after when NO FURTHER APPLICATION can be entertained.

THOMAS DICKER, London Secretary.

No. 4, Royal Exchange-avenue, E.C., June 18, 1869.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 11	Cashwell	40	£12 16 10½ ..	Walton & Co.
18	Great Laxey	100	22 7 6	Walker, Parker, & Co.
21	Trewetha	34¼	24 15 6	Treffry's Trustees.
—	Caldbeck Fells.....	23½	14 0 0	Walker, Parker, & Co.
—	ditto	8¾	12 18 6	Sheldon, Bush, & Co.
—	ditto	15	10 2 6	ditto
24	Wheal Mary Ann	60	24 3 0	ditto
—	ditto	38	15 0 6	Treffry's Executors.
—	Bronfloyd	70	13 14 0	Sheldon and Bush.

BLACK TIN.

Date.	Mines.	Tons. c. q. lbs.	Price p. ton.	Amount.	Purchasers.
June 19	Wheal Kitty ..	12 11 2 23 ..	£74 2 6 ..	£932 17 7—	—
—	ditto ..	7 5 0 6 ..	74 2 6 ..	557 12 0—	—
—	Penhalls	16 11 0 23 ..	74 7 6 ..	1291 13 4—	—

COPPER ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 21	Caldbeck Fells.....	2½	£19 6 6	Bibby, Sons, & Co.
—	ditto	3¾	7 8 6	ditto

COPPER ORES.

Sampled June 10, and sold at Tabb's Hotel, Redruth, June 24.

Average standard..... £ 93 17 0 | Average produce 8⅝
Average price per ton £5 1 6
Quantity of ore .....1888 tons | Quantity of fine copper..157 tons 5 cwts.
Amount of money £9563 13 6
LAST SALE.—Average standard..... £105 3 0—Average produce..... 6
Standard of corresponding sale last month, £ 93 3 0—Produce, 8¼.

[We shall publish the details of the Ticketing in next week's Journal].

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

EXHIBITION OF MINING PRODUCTS, &c.

An EXHIBITION of the MINING PRODUCTS, BUILDING STONES, ROCKS and FOSSILS of DEVON and CORNWALL (and other objects of scientific interest), will be HELD in the ALBERT MEMORIAL MUSEUM, EXETER, during the meeting of the BRITISH ASSOCIATION in August next.

Intending exhibitors are requested to communicate, without delay, with W. S. M. D'URBAN, Curator of the Devon and Exeter Albert Memorial Museum, who will furnish applicants with all necessary information.

*** No charge will be made by the Committee for exhibition space.

Royal Cornwall Polytechnic Society.

THE THIRTY-SEVENTH ANNUAL EXHIBITION will be HELD at FALMOUTH at the end of AUGUST next, immediately after the Meeting of the British Association at Exeter.

MEDALS and PRIZES will be awarded for EXHIBITS and SCIENTIFIC PAPERS or ESSAYS in the MECHANICAL, FINE ART, PHOTOGRAPHS, NATURAL HISTORY, and other departments.

Lists of Prizes and Premiums, and Forms to be filled up by Exhibitors, and all further information, may be obtained of the honorary secretaries,

W. P. DYMOND,
Polytechnic Hall, Falmouth. A. LLOYD FOX.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt: it then forms an accumulating useful work of reference.

LISBURNE CONSOLS.—I should be glad if any correspondent would give me some reliable information respecting this property. What is its present position, and what are its prospects?—A. C.

DRESSING MINERALS.—The specification of Mr. Julian Bernard shall be forwarded on receipt of tenpence in postage stamps.

SCALE FOR ADVERTISEMENTS.—To avoid the necessity of frequent application we may state our charge for general advertisements is—for six lines and under, 4s.; per line afterwards, 8d. Average, twelve words per line.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, JUNE 26, 1869.

AFTER THE EXPLOSION—SAFETY APPARATUS.

We need hardly write in the *Mining Journal* that the deaths by a colliery explosion do not all display the immediate effects of the ignition of the carburetted hydrogen. After an explosion the resultant gases are not unfrequently quite as disastrous as those which killed by burning. Every volume of fire-damp, it is scarcely necessary to write, requires, on burning, ten volumes of air. Hence, after an explosion, this large proportion of air is rendered unbreathable. The ignition of the gas not only abstracts from the atmosphere its life-giving, flame-feeding oxygen, but, consequent on the explosion, there is introduced into the air a considerable volume of the deadly gas called carbonic acid. It is a product formed by the union of the carbon of the fire-damp with the oxygen of the air. By the mass of the workers underground it is called choke-damp or after-damp, the former term referring to its suffocating properties, and the latter to its appearance subsequently to an explosion. The effect of the after-damp upon the miner is (as everyone who has experienced it will ever remember), to occasion a smarting at the eyes, produce a bitter and pungent taste upon the palate, bring on giddiness and apparent sleep, which seems to forebode, what in too many instances it becomes, the sleep of death. We notice that out of 38 of the total number of deaths occasioned by the last explosion at Ferndale, 16 were brought about by suffocation. The deceased had inhaled the carbonic acid resulting from the firing of the carburetted hydrogen. This is only the last occurring instance of the effects of after-damp. It is well known that not only are men killed by it who are at work in a pit at the time of an explosion, but that by it the lives of many heroic men, who become the Forlorn Hope after an explosion, are annually sacrificed. Confining ourselves to South Wales, we observe that Mr. WALES, in his report for 1867, calls the attention of the Home Secretary to a case in which three out of a company of courageous volunteers were suffocated in an attempt, which proved successful, to release three colliers imprisoned without air, in consequence of the rising of the water, consequent upon the failing of the pumping apparatus. And in his report for this year the same Inspector speaks of the disordered condition of a pump at another colliery, cutting off the air, and an an explosion being the result. In that case from 20 to 30 colliers were at work some considerable distance from where the explosion took place, and none of them were burned; but, unfortunately, they had to pass through the after-damp on their road to the bottom of the shaft, and four of the number succumbed.

Several plans have been devised for providing the members of a rescuing party with some arrangement by which they may penetrate the dangerous atmosphere into which they descend. Mr. T. Y. HALL proposes to encase the workman in an air-tight dress, similar to that of a diver, the air being supplied by flexible tubes, connected with a permanent system of pipes, receiving air from the downcast shaft. M. GALIBERT has had made an apparatus, consisting simply of a stout bag filled with air, which communicates with the mouth and nostrils of the explorer. M. ROUQUAYROL has constructed a strong metallic case (to be filled with compressed air), which the searcher is expected to carry in the fashion of a knapsack. From this reservoir the supply of air is so ingeniously regulated that it reaches the mouth at the ordinary pressure, while the expired air is removed by a self-acting valve. Useful as certain of these methods may undoubtedly prove on an emergency, they are not known much of, nor are they likely, indeed, to come into very general use in the coal mines of Great Britain. They deserve, however, more attention than they have yet received, and we should be happy if one of the results of this sketch of them should be to point notice to a valuable paper on the subject by Mr. ROBERT HUNT, F.R.S., in which the plans we have enumerated will be found amply illustrated.

Our primary object herein is to bring before the mining world a much more comprehensive appliance. A fortnight ago we stated in the article upon "The South Staffordshire Coal Field" that Earl DUDLEY'S Oakham pits—correctly, his lordship's No. 26 pits, Tividale Colliery—were furnished with self-acting doors, intended to come into use in the event of an explosion. We now explain that the shafts at the two pits are 15 yards apart from centre to centre, that they are 8 ft. in diameter, and are 250 yards deep. At the insets, or entrance passage to the mine, between the shafts there is a round arch, and near the centre from each pit the doors are placed. They are two pairs, are self-acting, and open in exactly opposite directions. Their self-action is brought about by two pairs of very strong springs being placed upon the inside of them. In the event of an explosion happening in one pit (we will call it pit A) the first pair of doors upon which the blast would come would fly open into a recess on each side of the arch. The force of the explosion passing on would greatly damage the pair nearest to the other shaft (of what we will call pit B), but the doors of pit A will have closed immediately that the blast has passed. They will have been sent to with a fierce rebound by the action of their springs. The doors near to the shaft of pit B being made of strong iron, like those of pit A, will, assisted by their duplicate springs, present a tolerably resisting front to the explosion. Strong, however, though by reason of the materials used in their construction, together with the extra power given to them by their springs, it cannot be expected that they will successfully resist the terrible canonading by which most explosions of magnitude are distinguished. It is impossible that they should resist the concussion. In the event of the explosion coming from the direction of pit B, the doors, which we have now supposed to be shattered, would open to allow the blast to pass them, but would instantly close again, whilst the doors nearest to pit A would be those destroyed.

Hence, in the event of an explosion in workings ventilated by a downcast and an upcast shaft, the use of these doors would have the effect of keeping just one-half the space open amenable to the action of fresh air, directly that the blast had passed the first pair of doors; for these, returning to their closed condition, would restore the ventilation, either in pit A or pit B, as the case may arise. If it should happen that the men down at the time of the explosion were equally distributed throughout the workings, one-half of the number who would otherwise succumb to the choke-damp would be saved; and a searching party could seek the burned men in the same division, without the aid of either of those temporary portable reservoirs of air to which we have just called attention. It may, however, happen that the carburetted hydrogen is fired in the division where the larger number of the colliers are employed. In such an event it may be concluded that those who would be saved from suffocation would be a larger proportion than one-half of the otherwise inevitable deaths from the same cause. Of course, however, a converse result may happen, and the benefit of the action of the doors be derived by the men in that side of the workings where the smallest number of hands may be engaged. But whether the larger or the smaller number be benefitted, the invention certainly opens up a means whereby the deaths from suffocation following an explosion may possibly be reduced 50 per cent., wherever the method is adopted.

The mechanism is so simple that we think our readers will have understood it without the aid of a diagram. It must strike everyone as very much more complete than anything that has yet been adopted. Mr. LATHAM, who has originated it, and who is the mining engineer directing the operations at these pits, makes no fuss about the doors, and we are, therefore, the more gratified in thus prominently bringing them before the notice of the mining world. Henceforth the yearly aggregate of deaths by carbonic acid after an explosion should be many fewer than are now found recorded in the Annual Blue Book upon the cost of life at which we win the fossil fuel of Great Britain.

A NEW SCOTCH MODE OF CHEAPENING THE PRODUCTION OF PIG-IRON.

Mr. RICHARD BROWN, of the Shotts Iron Company, Glasgow, has provisionally protected an expedient for cheapening the production of pig-iron, which has been well received by the Scotch ironmasters. Ironstone, after being calcined, according to the usual custom is allowed to cool down, and in many instances is permitted to lie in heaps till the grass grows over the mound, while all the time the char is absorbing moisture from the atmosphere of from 10 to 20 per cent. Now, what Mr. BROWN proposes is to remove the ore in as hot a condition as possible, and at all events before it reaches the temperature of the atmosphere. If removed in an incandescent state to the blast-furnace it enters on its further stages as a "pro" instead of as a "per" oxide of iron—is much lighter in weight, and a consequent saving is effected in the lordship, and also in its transmission by railway. Less fuel will also be required to convert ore so removed into pig-iron, seeing the iron char contains no moisture, and will not have to be brought back to the temperature of the atmosphere, which it exceeded before being allowed to cool down. It has, also, hitherto been the practice with contractors to weigh their output long after its having been calcined, and, consequently, after it has absorbed from a 5th to a 10th of moisture, which will now be all saved to the maker, and thus their ore will be produced at from 1s. to 2s. a ton under what they formerly paid. Mr. BROWN recommends in addition that the ordinary dross instead of coal be used for heating the furnaces after being coked; which, though not of a superior quality, can be used with a saving, utilising at the same time the gases, which are presently allowed to escape into the atmosphere, for assisting in heating the blast and the boilers. In cases where the ironstone is calcined at a distance from the furnaces, iron wagons would be required to bring the red-hot char on to the works, but this difficulty could be easily overcome. Of course, there would be a loss of caloric in the progress of removal by rail in proportion to the distance traversed, but so long as the char is kept in a hoter state than that of the surrounding atmosphere so long will a saving be effected, as no moisture will have to be expelled when placed in the blast-furnace. But while this is a present difficulty, Mr. BROWN entertains the hope that he will be enabled to suggest a plan by which makers will be able to put the char into the furnace in a red-hot condition. The saving from all sources is estimated at from 3s. to 5s. a ton.

These are the principal features of Mr. BROWN'S scheme, and it is reported to have been well received by the Scotch ironmasters, and a proposition has been made to make a presentation to Mr. BROWN, as an acknowledgement of the utility of his project. The further development of the scheme will meet with our attention.

THE IRON AND STEEL INSTITUTE.

The inaugural meeting, announced in last week's *Mining Journal*, was held at the Society of Arts, on Wednesday evening, when the Duke of DEVONSHIRE delivered an address, at once exhaustive of the subject, and displaying a very intimate acquaintance with the practical part of the iron trade. Beginning with an explanation of the objects for which the Institute has been established, and remarking that the success which had attended similar societies established in connection with other branches of the national industry augured well for theirs, his Grace proceeded to give an admirable outline of the History of the Iron Trade from the earliest times. He observed that he had accepted the office of President in consequence of the interest he had in the trade as a mine owner and shareholder in iron works, and from the consideration of the results which had been achieved by the societies of mechanical engineers, civil engineers, the various local mining associations, and the Royal Agricultural Society, affording, as they did, examples of the advantage of combinations formed to promote science in its practical application, rather than in its purely intellectual aspects. The address then proceeded with an historical enquiry into the first discovery of iron, and its uses, and the progress of its manufacture. The manufacture of iron, he said, was mentioned by Homer and Hesiod, and had been asserted by Mr. Layard to have been known in Assyria at so early a period as the year 900 B.C. He then noticed the early methods of manufacture down to the period of the use of coal, which gave such a vast impetus to the manufacture of iron in this country, and the introduction of the hot-blast for smelting; and next touched upon the manufacture of wrought-iron and steel, giving Cort (whose claims were unrecognised during his lifetime, and who died in penury) the credit of the invention of the puddling-furnace, and describing the Bessemer process as one of the most important improvements for producing steel that had been as yet introduced. After referring to the iron works of the Continent, with regard to their capabilities of competing with those of this country—to the great development of mineral wealth in the United States, only limited by the scarcity of labour, suggested as the problems most interesting to the iron world the reduction in the consumption of fuel by improvements in the furnaces, the use of mineral oils in the purification of the metal, and improvements in the manufacture of steel.

Having pointed out the advantages derivable from the utilisation of the waste gases from the blast-furnaces, the President observed that the problems to be solved now which were of the most importance were economy in the consumption of fuel, and a greater utilisation of the waste gases. Mineral oil had been used in the dockyards in place of coal. It was also highly important to obtain the metal as pure as possible, and though chemistry had been brought to the aid of the manufacture, yet the chemistry of iron and steel was still in many respects obscure and uncertain. His Grace concluded by expressing the hope that he had not omitted to refer to any invenvention which was deserving of notice in connection with the advancement of the iron trade, and remarking that iron was entitled to be regarded as one of the necessaries of civilised life.

In moving the vote of thanks to the noble President for his address, Mr. Richard Fothergill, M.P., characterised it as the most masterly he had ever heard; he regarded his Grace's address as exhaustive of the subject. In his own experience, which extended over 30 years, the advantage of scientific experiment had been very apparent. The idea formerly entertained was that good iron could only be found at certain places, and that the process of manufacture was quite a secondary matter. During the last 30 years they had learned that the quality of commercial iron depends upon its approach to purity, or absence of deleterious ingredients from the alloy of which it consisted, and they now knew how to look for varied qualities of ore which by admixture would produce the result they desired. At the time when he first came into the trade 1,000,000 tons per year represented the entire produce of Great Britain—it was now 5,000,000 tons. Then in South Wales 50 tons per week was considered a good make, now it was 400 or 500 tons. He knew no profession which required such a combination of character as was necessary to carry on one of our great iron works with profit and advantage. He concluded by formally moving the vote of thanks, which was seconded by Mr. Isaac Lowthian Bell, and carried with acclamation. The proceedings then terminated.

TOWER SUB-WAY.

Upon the invitation of the Chairman and directors of this company, a party of gentlemen visited the works yesterday, with the view of inspecting the progress that has been made in this proposed communication between the two sides of the river, from Tower-hill, at the western end of Lower Thames-street, to Southwark. The works were commenced in February last. The sub-way is approached by a shaft of about 60 ft. deep, excavated through the London clay almost entirely, except a superficial covering of made earth. The tunnel is continued through the same formation, and is now completed a distance of 440 ft., or about one-third of the length of the proposed undertaking; the impermeable nature of this London clay has been extremely favourable to the progress of the working, and this would seem to insure not only the future safety but the absolute dryness of the tunnel. The average depth beneath the bed of the Thames is about 26 feet: the nearest approach to it is 23 feet, which is already passed, and the opinion of the engineer, Mr. P. W. BARLOW, jun., as to the practicability of the work is established. The tunnel is so dry at present that water for cement used in the construction is obliged to be brought into it.

Independently of the natural dryness of the tunnel, from the nature of the stratum through which it is carried, its safety is further secured by an iron shield, constructed upon a novel principle, which renders the inundation of the tunnel impossible. The excavation advances and the tunnel is perfected at the rate of 9 feet a-day. The method of working is that the ground is excavated in front of the shield to the required size, and the shield is then pressed forward by means of screws, worked by hand-power, at intervals of 18 in., and the rings of the tube placed *in situ*.

Amongst the scientific gentlemen present we noticed Captain D. GALTON, F.R.S., Dr. BUCHANAN, Prof. J. MORRIS, F.G.S., R. W. MYLNE, F.G.S., Dr. SCLATER, F.R.S., and others, who were received by Mr. J. PRESTWICH (the Chairman) and the directors of the company. The visitors appeared to be interested and surprised at the rapid progress of the undertaking.

PROGRESS OF THE TRADE IN COAL TO LONDON.

Under the above title Mr. J. R. SCOTT, Clerk and Registrar of the Coal Exchange, has just published a series of interesting statistics, showing the progress and consumption of coal in London since 1775.* Coal, it is evident, was known to the Romans whilst they were in Britain, but it was probably not until the early part of the thirteenth century that it became a marketable commodity. In 1239 Henry III. granted a charter to the inhabitants of Newcastle to dig for coal. After that time a considerable trade was done in it to London; but as the burning of it was believed to be prejudicial to health, in 1306, on the petition of Parliament, Edward I. issued a proclamation against its use. As no notice was taken of the proclamation, a law was passed making it a capital offence, and it is recorded that a man was tried and executed for burning the sea coal in the metropolis; that law, however, was repealed in 1381. In 1291 the monks of Dunfermline obtained a charter to work coal on land belonging to the monastry, whilst in Wales coal was got about the year 1300, after which it came into pretty general use. In Yorkshire coal appears to have been known in the fifteenth century, for we find that in 1413 five men were fined 4d. each for seeking for coals at Darton, near Barnsley, beneath the lord's waste, without the latter's consent. Barnsley, it would also appear, at a comparatively early date became noted for the fiery character of its coal, for on Feb. 11, 1672, an explosion of fire-damp took place at a pit there, killing one James Townsend. In 1745 the coal in South Yorkshire sold at 1s. per ton. From the figures of Mr. Scott, we find that the consumption of coal in London in 1775 was 664,278 chaldrons, on which a duty of 8s. per chaldron was paid, and which had increased at the end of the next 50 years to 1,456,159 chaldrons, the duty being reduced to 6s. In 1832 the present duty of 1s. 1d. per ton came into operation, when the consumption was a little over 2,000,000 tons. In 1845 the first return of coal carried into the metropolis by railway is given, when the London and Birmingham is credited with 8337 tons. The year following the railways carried 11,698 tons. In 1850 the Great Northern began to carry coal to the North, after which it made very rapid progress, for whilst in the year named it only conveyed 4944 tons to London, yet in the next it carried 101,976 tons. After that time the coal exported to London by railway assumed extraordinary proportions, so that in 1867, for the first time, the seaborne coal was exceeded in quantity by that carried over the various lines running into London. The following table of the quantity of coal which entered London during the last 10 years will show the progress made by the railways:—

Year.	By sea.	By railway.	Price per ton.
1858 ..... Tons	3,266,446 ..... Tons	1,190,521	18s. 5d.
1859	3,299,170	1,191,169	18 4
1860	3,573,377	1,477,546	20 1
1861	3,567,002	1,642,502	19 6
1862	3,442,402	1,513,296	17 7
1863	3,335,174	1,775,487	18 2
1864	3,116,703	2,342,440	20 1
1865	3,161,683	2,733,056	20 2
1866	3,033,193	2,969,896	20 1
1867	3,016,416	3,295,652	20 8
1868	2,981,230	2,979,333	18 7

At the present time it may be said that the price of the best coal in London and other places is less than it has been during the past ten years, whilst the trade has scarcely ever been worse, the quantity going from the Yorkshire districts being less than for several years past. The best Hetton's just now are quoted at about 17s. per ton.

The following is a comparative statement of the purposes to which the coal in London was applied during the last three years:—

SEABORNE:—	1866.	1867.	1868.
House ..... Tons	1,243,425	1,254,354	1,305,873
Steam	302,435	301,134	279,299
Gas	1,114,417	1,104,552	1,022,824
Coke and smith's	117,188	120,860	145,616
Manufacturing	137,978	150,369	144,674
Welsh	52,308	40,130	37,044
Yorkshire	23,375	23,417	24,193
Small	42,067	19,600	21,707
RAIL AND CANAL:—			
House and general ..	2,573,488	2,780,112	2,389,784
Gas, coking, &c.	23,186	61,292	91,052
Welsh	318,943	378,939	428,809
Coke	64,452	85,483	79,213
Total	6,013,262	6,322,242	5,970,088

It will thus be seen that there was a marked falling off in the consumpton of coal in London last year, and, so far, it appears likely that there will be a similar falling off this year.

* "An Epitome of the Progress of the Trade in Coal to London since 1775." By J. R. SCOTT, Clerk and Registrar of the Coal Exchange. London: Nissen, Parker, and Co., Mark-lane.

MINES REGULATION BILL.—In the House of Commons, on Thursday, Mr. BRUCE, in reply to Mr. CARTER, said that the state of public business would not allow him at present to make any arrangements for the consideration of this Bill. It is thought to be most probable that a morning sitting will be appointed for the purpose. In addition to the information given in last week's Journal, it may be stated that it has been arranged that amendments shall be introduced in the sixth clause, so as to provide that (instead of the hours of labour being limited to a fixed number in each 24) no male young person under 14, and above 12 years of age, shall be allowed underground for the purpose of employment for more than 50 hours in any one week; and that no woman, nor any male young person from 14 to 16, shall be employed for more than 56 hours in any one week

The workmen consider that this would afford more elasticity to the masters than the proposition for eight hours employment out of each 24 hours, and would prevent any undue pressure upon women and lads.

STEAM COAL FOR THE NAVY.—The return recently moved for by Mr. Lancaster respecting the relative merits of the steam coal supplied by the South Lancashire and Cheshire Coal Association to the Storekeeper of Her Majesty's Dockyard at Portsmouth, by Admiralty officials, in July, 1868, contains an abstract of the reports received upon the subject. The Wigan Coal Company's Yard Coal was tried on board Her Majesty's ships Camel, Serapis, and Hercules. The reports of the trials were to the following effect :—

CAMEL : These coals are the most economical used for nearly three years. The duties of the engines have been accomplished easier, or otherwise more steam generated than with common Welsh, or a mixture of Newcastle. They make very few ashes, and also very few clinkers. There is more smoke, but not so much as from Newcastle; with the exception of the Risca Rock coal, they are the best used for 14 years.—SERAPIS : This coal is of a good quality for generating steam, but burns more quickly, and makes more clinker, soot, and smoke than the several descriptions of Welsh coal generally supplied. It is not suited for the voyages of the Indian troop ships, as it is liable to choke the tubes.—HERCULES : This coal is of good quality, little smoke, average amount of clinker and unconsumable ashes, burning fast. Estimated economical value as compared with best Welsh coal—Welsh coal, 100 ; Wigan coal, 92.

ROYAL CORNWALL POLYTECHNIC SOCIETY.—The amount of benefit conferred upon the industrial population of Cornwall by this very useful society is, probably, unsurpassed by any local scientific association in the kingdom, so that the announcement that its thirty-seventh annual exhibition will open on Aug. 27—a most convenient date for the visitors to the meeting of the British Association at Exeter—will be received with general satisfaction. Medals and prizes will be awarded by the society in the mechanical department for exhibits connected with natural philosophy, chemical analysis, mechanical, and other scientific inventions and improvements, models of machinery not displaying invention, and naval architecture. The society offers every inducement to exhibitors, by making them no charge for space, whilst the advantage to exhibitors of showing mechanical or other arrangements which they propose to introduce cannot be questioned, since the exhibition affords an excellent opportunity for making known the merits of inventions, &c., throughout the West of England. To the society's long list of special premiums another has this year been added of considerable importance. The efforts which have recently been made in Cornwall to introduce machinery for boring and tunnelling purposes as a substitute for hand labour is already well known to the readers of the *Mining Journal*, and for several years past the exhibitions of the Royal Cornwall Polytechnic Society have afforded ample evidence of the progress made in that direction. To stimulate further exertions in the matter, premiums of 10*l.* by Capt. Wm. Teague and the adventurers in Tincroft, and 5*l.* by the society for the best practical suggestions (with models or drawings) as to the motive-power to be employed in driving boring machines in Cornish mines, including the method of conveying the power to the machines. The Council have fixed Aug. 7 as the last day for receiving applications for space, but it is, of course, desirable that intending exhibitors and competitors should put themselves in communication with the honorary secretaries, Messrs. W. P. DYMOND and A. LLOYD FOX, at Falmouth, as soon as possible, in order to enable them to make the necessary arrangements for the display of the articles sent to the greatest advantage.

BRITISH ASSOCIATION.—The forthcoming meeting at Exeter promises to be highly attractive to those connected with the mining interests, the proximity of the place of meeting to the mining districts of the Western Counties having been availed of for arranging a special exhibition of mining products in the Devon and Exeter Albert Memorial Museum. It has been decided that no charge shall be made for exhibition space, and Mr. W. S. M. D'URBAN, the curator, has undertaken to furnish all necessary information to intending exhibitors. All exhibits must be delivered at the Museum by Aug. 1, at latest, and it is proposed thus to classify them. Firstly, there will be the MINING PRODUCTS, including all minerals obtained in metalliferous mines, dressed ores and metals derived from them, culm and lignite, whetstones, china stone and clay, ordinary clays, umbers and ochres, and gossans. Next there will be the BUILDING STONES, including slates and ornamental materials, such as serpentines and marbles. The third class will embrace MANUFACTURED ARTICLES, such as bricks, tiles, draining-pipes, pottery, &c. The fourth ROCK SPECIMENS, illustrative of the geological structure of the two counties, and of mineral veins, slickensides, and faults. The fifth, FOSSILS from all the formations which occur in the two counties. The sixth, MODELS of water-wheels and machinery used in mining, plans and sections of mines, photographs of mining buildings, &c.; miners' tools and dresses. The building stones are to be in blocks, large enough to form when dressed cubes of not more than 9 nor less than 6 in.; if sent ready dressed, one face of the cube should be left rough. It is arranged that each specimen shall be labelled with the name of the mine, quarry, &c., from which it is produced; the name of the proprietor and manager, locality, geological formation, and for the more important ores the percentage of metal per ton, and the amount annually raised from the mine. It is suggested that statistics relative to the health of the miners, the drainage and ventilation of mines, and all particulars bearing on the social questions connected with mines and miners, would furnish interesting materials for papers to be read before the sectional meetings. That the exhibition will afford abundant facilities for bringing the products of any particular mine or quarry under the notice of those likely to take an interest in them is beyond question; it is, therefore, much to be hoped that the invitation to exhibit will be extensively accepted.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,

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Mr. J. C. HADDAN, of Westminster, has specified a patent relating to cannon-wads, cannon, and the mounting of cannon on carriages. The improvements in cannon-wads have reference to wads to be used in rifled cannon for propelling elongated projectiles (constructed without studs or buttons), and imparting to them the rifle or twist motion; they consist in constructing such wads of a somewhat yielding material, which will upset or squeeze into the rifling, and so close the windage, and enclosing or embedding in, or combining with, the said material discs or pieces of metal, or of some hard material, which by the upsetting may be driven into the rifling of the cannon, and into recesses in the projectile, and so become keys, compelling the projectile to acquire the twist as they wish it, and the remainder of the wad is driven forward in the bore of the gun. For this purpose he proposes to use papier-mache or gutta-percha, or any other suitable substance, as the yielding material, and zinc or copper, or other suitable metal or hard substance, such as ebonite or vulcanite, for the keys, having a curvature, or form, on their inner sides, next to the projectile, adapted to the recess, and on their outer sides, next the surface of bore of gun, adapted to the rifling, so as not to score or injure the gun, for which purpose all sharp edges should be removed. The improvements in cannon, without and with bouched vents, respectively, comprise the forming the vent itself in the one case, and in the other the hole for the bouch with the inner end next to the bore of a conical, tapering, or trumpet mouthed shape, which it is believed will prevent, in a great measure, the cracks which so frequently occur round the vent, or bouch, end, which result in the bursting of the gun. For this purpose he turns, cuts away, or removes from the gun, by any suitable tool applied at the muzzle, or through hole for bouch, so much of the edge and of the adjoining metal at the entry, or junction, of the vent, and of the bouch hole into the bore of the gun, as may be necessary for the purpose; and when the vent is bouched he makes the bouch to terminate at a distance somewhat short of, instead of penetrating completely to, the bore of the gun; or if penetrating to the bore the trumpet-mouth shaped space round the bouch is filled up with lead, or some comparatively soft material. The improvements in the mounting of cannon on carriages comprise the mounting of two or more cannon in a generally parallel position, longitudinally with regard to a common horizontal axis (actual or imaginary), around which the guns may, as a system, rotate, the rotation presenting one gun only at a time, in an upper or summit position, for firing, and allowing it, as well as the other gun, or guns, to remain or be in a lower position after its recoil, or when not firing. The intention is to use the guns from behind a parapet, or in a pit or screened place, the raising of any individual gun by the rotative movement into the upper, or summit, position for firing enabling it to clear the top edge of parapet, pit, or screen which is supposed to afford protection in all positions, excepting the summit or exposed position of the gun. And, further, herein is comprised the making the recoil of the individual gun fired available for causing rotation of the system of guns on the axis of the system, the intention being, without manual labour, to bring the individual gun, immediately after firing, into a secure or screened position, without exposing the other gun or guns.

MANUFACTURE OF IRON AND STEEL.—Mr. THOMAS ROBINSON, of Widnes, Lancaster, has patented an invention, the object of which is to improve the quality of iron and steel by removing sulphur and phosphorus therefrom, and to facilitate the production of iron and steel of any desired quality. For this purpose he introduces into cupola, blast, or other furnaces of that class in which the body of the fuel is in direct contract with the ore to be smelted, or the pig or other iron to be remelted, whether such furnaces are worked with a plenum blast or induced current of air, nitrate of soda, nitrate of potash, or other salt, or salts, with like properties. In carrying his invention into effect he introduces the said salt, or salts, into the furnace in a powdery state through the tuyeres with the current of air which carries it or them forward in mechanical suspension, or introduces it or them through openings in the side of the furnace, or in any other manner, preferring in all cases that the point of entry should be near the level of liquid metal on the bottom of the furnace.

THE NORTH OF ENGLAND IRON AND COAL TRADES.

MIDDLESBOROUGH, JUNE 24.—There is at present a marked quietness about almost every department of the Manufactured Iron Trade. Pig-iron makers continue as busy as they could wish for, and in no quarter do we hear complaints of a scarcity of orders ; but as prices have made no advance we cannot report any improvement. The deliveries towards the end of the month are held back, in consequence of stock-taking at the principal works. With the advent of another month more animation is looked for, and manufacturers speak hopefully of an improvement in the present rates for pig-iron, which are —for No. 1, 48s. 3d. ; No. 3, 45s. ; and No. 4, 44s. 6d., net cash, f.o.b. in makers' works, or on the Tees. Shipments to France and Belgium are pretty well sustained, although the continental demand otherwise is said to be limited. The forges and mills of the district continue largely occupied, principally in rail and plate orders. There is a stiffening of prices in the bar-iron trade, of which better prospects still are entertained. Shipbuilding iron is in good request, at present improved rates. Foundries are not so brisk, but boiler and engineering establishments are busy. There has been no event worthy of special attention in connection with the Cleveland iron trade during the past week. The North Yorkshire Iron Company have commenced to work on a large order of rails, and as they have added about 30 new furnaces to their plant, they will be prepared to carry on operations on a large scale. Other works in the district are adding largely to their powers of production.

Complaints of the unremunerative and unsettled condition of the Northern Coal Trade are still common. In very few of the Northumberland or Durham collieries are the men able to put in a full week's work. This is attributable mainly to the falling off in foreign requirements, as there is a large local consumption. The strike continues at the Monkwearmouth Colliery. The owners of the colliery have prohibited officials from discussing with the men any point with reference to their wages until they have returned to their work ; they have, at the same time, determined to make no advance.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

JUNE 24.—There is little or no alteration in the state of trade in Derbyshire, which remains in about the same state as when last noticed. The iron works are doing a moderate business, some of the large foundries being rather favourably off for orders for pipes and ordinary castings. There is not much improvement in the demand for coal, so that many collieries are only working three and four days a week. In Steam Coal, however, there is a little more doing, but even that is scarcely so active as might be expected at this season of the year. To London a considerable tonnage continues to be sent, Derbyshire now forwarding there fully two-fifths of all that is entered there by railway, and which quantity is likely to be considerably increased by the opening of the new branch line from Sheffield to Chesterfield, and which, with the exception of the stations, is now completed, the directors having arranged to go over it yesterday. The line is about 12 miles in length, the estimated cost for the construction of which was 465,954*l.* Large as the sum may appear for the distance, there is every probability that the branch will, for its extent, be the best paying of any on the entire route of the Midland. It passes through a thickly populated country, rich in coal and ironstone. In anticipation of the facilities it will afford, nearly a dozen collieries will be opened on its course, as well as some large iron works. In the vicinity of Unstone Messrs. Kirsop and Bambridge, of West Staveley, are opening out a large colliery, as are also several others who have taken considerable royalties. At Dronfield, the Messrs. Lucas, about the oldest firm connected with the iron trade in Derbyshire, have erected large works for their increasing trade. So far back as 1794 Samuel and Thomas Lucas took out a patent for casting from common pig, and which is in use up to the present time. In addition to the collieries on the branch alluded to, several new collieries are being opened out on the main line, a large one in particular near to Eckington, by the Messrs. Wells. There are also one or two at Monkwood, and on the Erewash Valley line. The Lockoford Colliery, once the property of George Stephenson, but which was for several years abandoned and water-logged, has now been cleared, and raising a good deal of coal. Mr. G. Leuer, of Barnsley, has also cleared the Hasland-lane, and the pit connected with it, near to the Wingerworth Iron Works, and both of which were closed for a few years, owing to an irruption of water. Higher up, also, in the Erewash Valley route, new collieries have been opened out. The branch from Barnsley, to join the main line at Cudworth, is also completed, and from it a considerable addition to the mineral traffic may be looked forward to. The line is four miles in length, the estimated cost being 113,655*l.* On its route one of the largest collieries in South Yorkshire is now being sunk by Messrs. Day and Co., whilst the line passes quite close to the Oaks Colliery, which is once more in full operation. At Cudworth there is a very extensive coal field, the Barnsley seam there being rather more than 400 yards deep, but as yet untapped. Owing to the extensions named, and the new collieries being opened out on the main line, an additional 1,000,000 tons of coal, it is calculated, will be annually thrown on to the railway, so that there is very little doubt but what the Midland will become the principal carrier of coal to London and the South. That this position is now being rapidly assumed may be gathered from the returns, from which it appears that during the year 1868 the quantity of coal carried into London by the Midland was 183,701 tons, whilst during the last four months it conveyed 210,219 tons.

In addition to the traffic in coal, an increasing business is being done in ironstone from Wellingborough and other parts of Northamptonshire, one firm at the former place now raising upwards of 3000 tons weekly, nearly all of which is sent into Derbyshire and Yorkshire. New rolling-mills are also being put down, and the place is rapidly becoming an important centre of the iron trade. Just now, also, a great deal of interest exists in Northamptonshire, as it is believed that coal exists in various parts of the county, an opinion to that effect having just been given by several persons connected with mining operations. Should such be the case, the Midland would thus have another feeder near London, whilst Wellingborough and the district around it would become a second Cleveland. However, taking the new extension into consideration, and the large collieries being opened out in various parts of Derbyshire, it is evident that there must be an immense increase in the mineral traffic going southward by the Midland, and which cannot but largely increase the revenues of that company, and, consequently, the dividends of the shareholders. From the facts we have given the future position of the Midland may be easily gathered.

The iron works in the South Yorkshire district are kept well going, there being many good orders in hand for rails and most qualities of merchant iron. There is no improvement whatever in the demand for coal, and the trade was scarcely ever in a worse state than at present. House coal, in particular, is in anything but good request, whilst the prices are at the lowest point they have been at for several years past. A moderate business continues to be done with Hull and Grimsby in steam qualities, still the trade to the North of Europe is not so large as might be expected just now. There is no change with regard to the disputes which have so long existed in several of the principal collieries in the district. It is estimated that about 1600 men are now in receipt of weekly pay from the Miners' Association, and this evening that number will be augmented by between 300 and 400 more, as the miners at Strafford Main bring out their tools at the close of their day's work, as the notices given to them will then have expired. The question entirely relates to a reduction of wages, to which the men will not submit.

It is very rarely we can take up a paper without being shocked by the announcement of another boiler explosion, with loss of life, great destruction of property, and total cessation of work of a great number of hands. Surely it is time some remedy should be applied for these awful occurrences. Looking at the matter in a practical point of view, these occur from simple causes. Firstly, from over-pressure; secondly, from shortness of water; thirdly, from corrosion, caused by leakage in rivets or seams, or from general decay or weakness of boiler. These things, I think, can be prevented.

Firstly.—*Over-Pressure.* I think it is requisite that there should be more than one safety-valve attached to each boiler, so that in case of one valve being fast, there is another to depend on ; also, if the steam generates too fast, there should be free escape for it, and I would have these valves so covered with a casing, either with sheet-iron or any other way, and locked up, so that the engine-man could not tamper with them by putting any extra weight on the lever to work the boiler at a higher pressure than has been fixed for it.

Secondly.—*Shortness of Water.* I am convinced that more accidents occur from this cause than any other, even when explosions have not occurred. Where there has been shortness of water how often do we find the flues drawn down, and the boiler rendered unsafe for use? I think that in this case the apparatus should be fixed in the boiler, so that it cannot be reached. There is a very simple and effective apparatus I saw the other day, made by Messrs. Bray and Hargreaves, to prevent any accident from shortness of water. They describe it in a very few words. It is intended to supersede the fusible plug, and, fixed in the same place, is self-acting. It is fixed at low-water mark, so that as soon as the water in the boiler gets there it gives notice by throwing a jet of steam on the fire, with a loud report, and continues to cover the fire with steam until sufficient water is put into the boiler. If water is not put in the fire is put out out by the steam.

Thirdly.—*Boilers being set in brickwork require special attention.* They should be properly examined at stated intervals by a competent man. Leakages very often occur in boilers below the brickwork. This is easily detected when the boiler has its flues swept out by looking over the boiler. Where there is a leak it will be found marked on the boiler where the water has run down, or a wet place will be found in the flue. The plates all over the boiler ought to be sounded by a hammer, so that if any thin plate be found it may be repaired at once.

REPORT FROM MONMOUTH AND SOUTH WALES.

JUNE 24.—For two or three weeks past the Iron Trade of this district has been characterised with quietness, and it cannot be said that any improvement has taken place during the past week, and the demand for all kinds of iron is not likely to improve until after the Quarterly Meeting. The Preliminary Meeting of makers will be held this day, and it is expected the price for all descriptions of iron will be fixed at present ruling rates. There are several rail contracts now in the market, and although no fresh engagements of importance have been entered into during the past week, it is satisfactory to find that the demand for rails continues unabated. It is, however, apparent that buyers are refraining from entering into heavy engagements until July or August, no doubt with the idea of placing them on more favourable terms, but there are unmistakeable indications that they will be doomed to disappointment, and that they must make up their minds to pay much higher prices if they intend to fix contracts for summer delivery, the leading ironmasters being strongly of opinion that prices must advance before many weeks have elapsed, as Russian and United States requirements are known to be large, and there is little, if any, competition with Belgian and other continental firms. There is something like activity evinced in the shipment of rails at the local ports for America, Russia, and Peru, and should the present fine weather continue for some little time the exports will be considerable, and show a very favourable increase as compared with the corresponding periods of the last two years. The home trade continues inactive, and for bars and the other miscellaneous descriptions there is a lack of anything like briskness in the demand, and this will, in all probability, continue to be the case for the next fortnight or three weeks. The Pig-Iron Market remains in a state of inactivity, which appears to be the case in all the other iron-making districts. The Tin-Plate Trade is quieter than for several weeks past, and no improvement is expected to take place in the demand until after the Quarterly Meeting, which is fixed for July 7.

Steam Coal proprietors report the trade in a slightly better position than it has held for the past few weeks, the fine weather which has prevailed having enabled a good many vessels to arrive at the local ports, but the arrivals are not so numerous as expected, and are insufficient to meet the requirements of shippers and proprietors for the more distant ports. This fact, coupled with the falling off in the demand, places the steam coal trade in a position far from satisfactory, and there is no prospect of any marked improvement speedily taking place. There are more enquiries from the mail packet stations, and to some of the South American ports larger quantities are being sent. The Spanish authorities having reduced the tonnage dues to one-half the amount the Provisional Government fixed them at a few months ago, gives hopes of trade with that quarter improving. The improvement which recently set in the House Coal Trade is so far maintained, and the shipments coastwise are about the same.

At the Newport Divisional Petty Sessions, Geo. Gregory and Thos. Cheese, two colliers, were charged with riding in coal trams on the incline of the Black Vein Colliery, at Risca, contrary to the rules of the company. The defendants, like a number of others employed in the colliery, were riding in the company's trams—a practice strongly prohibited by the company, as several men have lost their lives, and others been seriously injured by indulging in the practice of riding to and from their work, and Mr. Lionel Brough, the Government Inspector, has complained greatly of such a proceeding. The proprietors were anxious to put a stop to it, but their endeavours have been unavailing, consequently they brought the two defendants before the magistrates of the district, who, on being satisfied that the defendants had infringed the rules of the colliery, fined Cheese 10s. and the costs, and Gregory 20s. and the costs, and expressed a hope that it would act as a warning to the defendants and others for the future.

From the reports just issued respecting the experiments made on board some of Her Majesty's ships as to the value of the Wigan coal, compared with that of South Wales, and it is shown that the Risca Rock coal is best for steam purposes, and that the Wigan coal is not suited for the voyages of the Indian troop-ships, as it is liable to choke the tubes.

Six of the bodies of the unfortunate men who were killed by the recent explosion in the Ferndale Colliery still remain in the pit, and owing to the fire which raged in the pit it has been found necessary to flood the same. The bodies of the six men are in close proximity to the workings which fired—indeed, the explorers were upon them two or three times, and even touched them, but could not remain long enough to remove them, in consequence of the intense heat. They cannot now be got out until the water has done its work, and been withdrawn, which will not be for a few days to come.

The case of "Pillar *v.* the Llynvi Coal and Iron Company (Limited)" has been heard in the Court of Common Pleas. This was an action brought by the plaintiff at the last, Bristol Assize to recover from the defendants 477*l.* 5*s.*, wages alleged to be due to him for the period from January, 1863, to March, 1869. A verdict was taken *pro formâ* to the plaintiff, with leave for the defendants to move to enter a verdict for them, a rule *nisi* having been obtained for the purpose. The plaintiff was a tinman, and was employed by the defendants as such to make articles, and do jobs in the way of his trade required for defendants' work. The plaintiff contended that the company's arrangement with him was contrary to the Truck Act, 1 and 2 William IV., cap. 37, sec. 4, and that he was entitled to recover his wages as an artificer, they not having not been actually paid to him in the current coin of the realm, as provided for by the statute, but stopped under an alleged illegal arrangement. The Court, on account of the general importance of the case, said that they would take time to consider their judgment.

A mass meeting of colliers was held in the neighbourhood of Llanwonno on Monday, about 1000 persons from various parts of the Aberdare being present. The Mines Inspection Act, now under the consideration of Parliament, was discussed, and a letter from Mr. H. Richard, M.P., was read upon the subject. The meeting was of opinion that sub-Inspectors were necessary for the preservation of the men's lives.

A special meeting on the managing committee of the Ferndale Relief Fund was held at Aberdare on Monday evening. From what transpired it appears that it had been incorrectly stated, since the recent explosion at Ferndale, that 6000*l.* still remained in the hands of Mr. Richard Fothergill, M.P., and Mr. Henry Austin Bruce, M.P., trustees to the Ferndale Fund, which, with 2000*l.* in the hands of the Pontypridd local committee of the above fund, are available as a nucleus for a new fund for the benefit of the late sufferers. The committee, on Monday, stated that there was not a particle of truth in the statements, every farthing being invested for the sole benefit of the sufferers, and the probability is that the entire fund will be exhausted almost before the younger recipients will be of age to provide for themselves.

At a preliminary meeting held at the Town Hall, Aberdare, on Monday, to consider what steps shall be taken to provide funds for the support of the widows and orphans by the recent explosion at Ferndale, a working man, named Lewis, spoke strongly against appealing to the public, as on a former occasion, and the meeting broke up without any resolution being come to.

The arrivals at Swansea include—the Admiral Berke, from Drammen, with 235 tons of zinc ore, for Dillwyn and Co. ; Roman Aledo, from Bilboa, with 130 tons of iron ore, to order ; Arbutus, from Cuba, with 420 tons of copper ore, for Richardson and Co., and 83 tons of copper ore for Cobre Company ; Kappa, from Sarco, with 700 tons of copper regulus and 108 tons of silver ore, for H.

Bath and Sons; Mary Sproat, from Aveiro, with 80 tons of copper ore, for Richardson and Co.; Sam Slick, from Carloforte, with 223 tons of calamine ore, for Richardson and Co.; Hebe, from Gothenburg, with 658 pieces of pit props, for Palmer Hall and Co.; Gem, from Carloforte, with 320 tons of zinc ore and 110 tons of nickel ore, to order; Anna Sarah, from Bilboa, with 240 tons of iron ore, for W. H. Tucker; Clemence Maria, from St. Nazaire, with 150 tons of iron ore, for T. Walters; I.O.U., from Genoa, with 275 tons of copper ore, for H. Bath and Sons: Saladin, from Carloforte, with 350 tons of zinc ore, to order; Pace Solieffino, from Carloforte, with 800 tons of zinc ore, for H. Bath and Son; Law Ogilby, from Carloforte, with 383 tons of zinc ore, also for H. Bath and Son.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

JUNE 24.—The Iron Trade remains without any material change since last week, but after the Preliminary Meeting, which has, of course, formed the principal feature of the week, the pig makers reported a better demand than for some time past, at firm prices, and the market generally presents a much more encouraging aspect. In the Dudley district several furnaces have recently been put in blast, and others are being got ready. The demand for coal has naturally fallen off considerably, and for the next three or four months little improvement can be expected. With regard to the prospect of the Iron Trade, very encouraging opinions are entertained. It is generally considered that railway enterprise in America, Russia, and elsewhere will require large quantities of English iron for the next few years certain, and if only this is secured there will be strong grounds for expecting that all other departments of the iron trade will be kept in steady operation. The Rail Trade now forms the staple of the English iron trade, and if the numerous rail mills in South Wales and in the North of England, each capable of producing from 500 to 1500 tons of rails per week, are only secured regular employment, then the works devoted to bars and miscellaneous kinds of iron will be sure to have a steady amount of work coming to hand. It is only natural, then, that general attention should now be devoted to the prospects of the rail trade, and as these are found to be satisfactory, it is not strange that we should find a gradual stiffening of prices in other departments of the Finished Iron Trade. In the Pig-Iron Trade there is even a disposition to hold out for higher rates.

The Ironmasters' Preliminary Meeting passed off satisfactorily at Birmingham on Thursday. Mr. Walter Williams, of Tipton, the President of the Association, was in the chair; and, as had been anticipated, it was resolved that there should be no alteration in the declared list of finished iron, which has regulated the transactions of the first-class houses for a twelvemonth past. The trade, it was clear, is only dull, and lower rates than list are being accepted by some makers, although the number who are underselling is smaller every day.

The Hartley Colliery Relief Fund was attempted to be dealt with at a meeting held in the banquetting-room of the Birmingham Exchange immediately after the Preliminary Meeting of Ironmasters. It will be recollected that some years ago upwards of 2000*l.* was handed to the trustees as the South Staffordshire proportion of the surplus The fund is now vested in trustees, a portion of whom are anxious to give it to the South Staffordshire Hospital, at Wolverhampton. the Hospital Committee, in return, undertaking to build a colliery, wing, and to devote twenty beds, free, for patients injured by colliery accidents. Another proposal, received with much favour by meetings of operative colliers is that the fund shall be applied to the formation or assistance of a general scheme of relief for persons injured by colliery accidents—in effect, a miners' assurance institution, supported partly by payments from members, partly by donations and subscriptions, and partly by the income of the Hartley fund. Referring to the terms of the gift, there can be no doubt that the latter arrangement would be most in accordance with the wishes of the Hartley committee, nor can there be any doubt that it is most desirable to foster provident habits amongst miners, or to give them the advantage of a large and well-managed assurance society. Upon the necessary motion for carrying the hospital scheme into effect, a memorial signed by 5000 miners was presented by Mr. Frederick Smith, agent to the Earl of Dudley, praying that the surplus be devoted to a fund for colliers' widows and orphans. Mr. Frederick Smith, one of the trustees of the fund, moved, and Mr. Cochrane seconded, the following amendment:—

"That as most of the colliers of the South Staffordshire and East Worcestershire districts were subscribers to the Hartley Calamity Fund, and as they have expressed themselves strongly averse from devoting the balance now standing in the hands of trustees to any other purpose than that originally intended—for the benefit of those whose husbands had been killed in the mines—this meeting authorises the aforesaid trustees to comply with the prayer of the memorialists, and as soon as the sum now in their hands shall have been increased to 3000*l.*, which the miners themselves have engaged to make up, then the interest shall be periodically paid to the widows of miners during the first year of their widowhood by a committee appointed partly by the coalmasters and partly by the men themselves."

After some discussion, the proposition of the committee to devote the surplus to the Wolverhampton Hospital was carried by 18 to 14. Mr. Smith entered a protest on behalf of the memorialists, and it is considered there is danger of the fund being thrown into Chancery.

At the Stourbridge Police Court Mr. Michael Grazebrook was summoned for neglecting to provide proper fencing to a fly-wheel at Blackbrook Colliery, Netherend. There was a second charge for not having a proper steam-gauge to the engine of the colliery. William Turner, ground bailiff at the colliery, was also summoned, charged—firstly, with not seeing the requirements of the special rules in regard to the above matters obeyed; and secondly with not having a proper signal at the pits. Mr. Walker (Wolverhampton) appeared in support of the informations, and Mr. Perry for the defendants. The charges were admitted, and it was stated that heavy penalties were not pressed for. Mr. Grazebrook was fined 2*l.* and costs in each case, and Turner 1*l.* and costs in each case. The penalties amounted altogether to 13*l.* 10s. 6d.

REPORT FROM SCOTLAND.

JUNE 23.—The tendency in the rates for Pig-Iron is still downward, and although the recession is very gradual, it is downward still. On 'Change estimates have been made that ere the close of this week prices will have declined to 50s. 3d. a ton. A number of weeks ago we hinted that there were causes in operation which, if not counteracted, would bring down quotations to 50s. a ton, and now serious fears are generally entertained that 50s. will be touched before such a diminution in the stocks of pig-iron—held for speculative purposes—shall have been effected as will give a rebounding elasticity to prices. In the meantime Middlesborough imports being all but cut off, and the produce of the furnaces being absorbed by shipments and local melters, the demand may be said to be balanced by the production; and any further increase in the shipments, or for melting purposes here, would have to be taken from stocks in store—a condition which would send prices upward of themselves, and give speculators a margin for operating upon. The closing prices last week were 50s. 6d. cash buyers, and 50s. 10d. a month, which rates improved ¼d. a ton on Monday, but closed as on Friday. Yesterday, without improving, the market steadied itself; but to-day there was great shyness, owing to Mr. Brown, of the Shotts Iron Company, having hinted a scheme whereby makers will be enabled to reduce the cost of make by from 5s. to 7s. a ton. This has reduced makers' iron, and all No. 1 of the following brands can now be purchased for—Coltness and Gartsherrie, 58s.; Calder, 56s.; Glengarnock (at Ardrossan), 54s. 6d.; Shotts (at Boness), 52s.; Langloan, 51s. 6d.; No. 1, g.m.b., 51s. 6d.; No. 3, 50s. 3d. We understand that Mr. Brown's process of cheapening iron in the furnace consists in putting in the ore in its hot state, and thereby saving a very great consumption of fuel. Prices for warrants to-day were 50s. 7d. cash, and 50s. 10½d. a month, but only one lot reported at 50s. 10½d. a month.

JUNE 24.—There is no alteration to-day in the price of Pigs, and a few thousand tons changed hands at 50s. 7d. and 50s. 6½d. cash, and 50s. 10d. a month.

The shipments of Pigs during the week were slightly better than in the corresponding week of last year, being 13,390 ions, against 13,160 tons in the same week of 1868. These figures now bring up the increase on the total shipments of the year from the Scotch ports to 22,500 tons; which, when added to the decrease in the imports from Middlesborough—27,140 tons—should make the Scotch trade better by close on 50,000 tons. All descriptions of Manufactured Iron are firmer this week, and merchants who held over their specifications, assuring themselves that prices would be lower, are now pressing their orders at current rates, and second-class makers have in some instances been enabled to raise their prices 2s. 6d. per ton. This has been caused by the offer of specifications for rails for Russia, and although we have only heard of about 7000 tons having been booked, an offer for 25,000 to 30,000 tons would have been accepted at 7*l.* Nobody seems caring here to accept of 7*l.* 2s. 6d., 7*l.* 5s. to 7*l.* 10s. being required as an inducement to put their machinery in order for this class of iron. The stiffening of prices has brought out new orders, which shows there is work in prospect, and has given a tone of cheerfulness to the trade for the nonce. No change otherwise in our quotations.

The Coal Trade, in the opposing hands of the coal and iron masters, keeps up a fair average, so far as the shipments are concerned, but the coalmasters complain of the "sharp practice" of the ironmasters, in so far as the railway dues are concerned, by which the latter have all the profits of sale in their own hands. Coals are, consequently, in buyers' favour, and the coalmasters are suffering. The shipments for the week reached 22,060 tons, against 22,145 tons in the corresponding week of last year. The miners continue to meet in districts, and by delegates, with the view of devising increased rates of wages, but nothing definite has been yet fixed.

A local contemporary (the Weekly Mail) has commenced a series of articles on the "Truck System," but there is room to fear that, if they continue as they have commenced, they may land themselves in the Court of Session. It is not exactly known why the newspaper in which they are appearing is devoting so much attention to this subject, as it has never been prominently identified with what the workmen regard as their interests. Still the Special Commissioners are prosecuting their enquiries, and certainly some extraordinary disclosures have already been made in reference to the Baillieston and Coatbridge districts. In the last article, the honourable exception of Messrs. W. Baird and Co., of Gartsherrie, to what seems to be the rule, is specially taken notice. The arrangements at Gartsherrie are characterised as an instance of fair, honourable, and liberal dealing. The men are paid monthly, but cash is advanced on any day or every day; there is no charge in the shape of poundage, or otherwise; and, indeed, the liberal dealing is so liberal that a co-operative store is in operation, owned by the workpeople, and they are encouraged to make use of it. They do so, and benefit pecuniarily by it.

On Wednesday afternoon a boiler explosion took place at Calderbank Ironworks, by which two men were killed and several injured.

The going colliery of Over Dalserf, on the Lesmahagow branch of the Caledonian Railway, is for present sale, also the coal and ironstone in the estate of Drumjoan, Ayrshire.

The development of the shipbuilding trade on the Clyde seems to prove a source of annoyance to our Translantic cousins, if one may judge from the numerous references and newspaper articles which they have emitted on the subject. They lament that since 1861 "the absolute decline in our foreign tonnage was 54 per cent., or nearly 1,500,000 tons"; and they themselves reply—"that the statistics given of the abandonment of wooden ships on the Clyde for iron, in the construction of which America can compete with Britain at far less advantage than in wood, reveal a conclusive answer." This is what they call the "mortifying advantage" of the British; and add that—"While the shipyards and machine-shops of America are idle, for five miles [should be twenty-five miles, or from Ruthergien Bridge to the Tail-of-the-Bank at Greenock] along the Clyde are heard the din and clangour of iron, under the strokes of British workmen. who are now building more ships than all the world beside." But this need be no real cause of regret. We buy their corn and their cotton without compunction, and may they not purchase our shipping without a pang, as other nationalities do? A fine steamer, of 1200 tons and 120 h.p., named the Blanche, has been launched for Messrs. Mallet, of Havre. Her engine is being fitted with great rapidity.

DISCIPLINE UNDERGROUND.

More than once we have drawn attention in the Journal to the difficulties that beset colliery proprietors and managers in those districts which, on account of the increased requirements of the country, were found a few years ago to offer very profitable sources of investment, and were, therefore rapidly developed. The Wigan field, and the newly opened out valleys of South Wales, were especially referred to. A necessity arose that crews of men should be obtained at brief notice. Consequently operatives were employed, many of whom had no previous knowledge of underground work. Such a collection of heterogeneous labour became particularly hazardous where the ordinary casualties of colliery work were increased by the conspicuous presence of explosive gas. In his last report, Mr. HIGSON, Her Majesty's Inspector of Mines for the Wigan district, pretty much repeats upon this point what he said in his report for 1867. Then his words were:—

"There are thousands upon thousands of workpeople not only untaught but altogether untrained for the labour in which they are employed in this district."

In his report for 1868 Mr. HIGSON says:—

"Within the last ten years the out-turn of coal has been nearly doubled; this has caused a great number of strangers to be employed, strangers not only to the working of these mines, but to the dangers by which they are surrounded, from gas, &c., and whose characters for skill, sobriety, and care are unknown."

Among the results which follow the employment of such colliers Mr. HIGSON enumerates—Roughness, disobedience, want of observance of the special rules, neglecting to prop and sprag the roof and sides of the mine, descending and ascending contrary to published instructions; charging shots defectively, which, blowing out into a vitiated atmosphere, cause an explosion; reckless running of tubs, and the opening of safety-lamps to get fire for tobacco. By these, and other such irregularities, a large total of accidents is accumulated.

"It is seldom, however (writes Mr. HIGSON), that they have been caused by old and experienced colliers and mining men; they are occasioned chiefly by strangers to the mine, or by those who began late in life to follow the employment, or by the young and inexperienced. It may show a great want of discipline, but *that most important element in mining* is most difficult to establish and maintain."

The same state of things as has here been described in respect of the Wigan coal field existed last year, and yet exists, in the Ferndale Valley. Mr. WALES, Her MAJESTY'S Inspector for the Southern Principality, in his report upon the terrible accident there on Nov. 8, 1867, by which 178 lives were lost, quotes the observation of the late manager (Mr. WILLIAMS), who, when certain complaints were made to him as to the conduct of his men, in respect of their lamps, replied—"He did not know what to do; they were a rough lot." Describing the scene at the same colliery, though not at the same pit, which was presented on Sunday week last, only three days after the Ferndale explosion, which is now undergoing investigation, a local reporter thus writes:—

"It was the 'draw' on Saturday, and the colliers at Ferndale drew pay on account. On the authority of the police officers stationed at the place, never was known more drunkenness, more fighting, and more debauchery than disgraced Ferndale on Saturday. There had been 13 of the dead buried on that day, and so incapable were fellow-workmen of rendering assistance that the coffins were borne to the grave by strangers. A collier manifested his gratitude to Providence for his deliverance by drinking himself into a state of madness, and engaging in a fight on Saturday. He had been brought to the surface just after the explosion, in a state of insensibility by two comrades, and was thought to be dead. He recovered, and he celebrated his recovery in the disgraceful way described."

Such men remind one of the crews who are described by NATHANIEL HAWTHORNE, in his "Consular Experiences," as giving rise to stringency of conduct on the part of those commanding them which was at one time regarded as unnecessarily cruel, but which HAWTHORNE himself, after deliberate thought, set down as inevitable. In constant association with such people, and solely responsible for their Government, the American shipmaster became developed into a man of iron energies, dauntless courage, and inexhaustible resources. Still this may have been brought about, as, indeed, HAWTHORNE fears, at the expense of some of the higher and gentler traits which might do the shipmaster excellent service in maintaining his authority. Whilst we should regret such an issue as last described, we should, nevertheless, rejoice on the workpeople's account if, having to deal with such miners as are employed about Wigan and in some of the Welsh valleys, the colliery managers there should be matured into men with force of will, determination of purpose, and an abundance of resources, no less adapted to their position than similar characteristics were suitable to the exigencies in which the American shipmasters found themselves. That it did not do so with reference to poor WILLIAMS is only too certain. How desirable it is that it should; we are supported in our own views by the testimony of Mr. WALES, who, in writing to the Home Secretary upon the loss of the 178 lives, says:

"In my opinion Mr. WILLIAMS should have put the law in force. Had that been done it was possible that the dangerous practice of opening the lamps might have been stopped, and the terrible calamity under investigation prevented."

Mr. HAWTHORNE found these same American shipmasters in many cases very agreeable and intelligent companions, with less nonsense about them than landsmen usually have, eschewers of fine-spun theories, delighting in square and tangible ideas, but occasionally infested with prejudices that stuck to their brains like barnacles to a ship's bottom. We claim for our colliery managers an equal number of good qualities, not even excluding their prejudices. These last sometimes lead them to pursue a course the very opposite of that which has been assigned by TENNYSON to his captain, in "A Legend of the Navy." This forgiving tendency characterised the manager previously named, who is now no more. But such people as are many of those who do the underground work in West Lancashire, and some parts of South Wales, are not amenable to much else than bit and bridle.

Amongst them that "most important element in mining," which is "most difficult to establish and maintain," must be incessantly aimed at, and whenever infringed must be punished with rigour. In these matters men in authority at our collieries must have no bowels of mercy. Unlike the shipmaster in NATHANIEL HAWTHORNE'S "Consular Days," they have not to be their own law makers and executioners. The Legislature has come to their aid, and whilst Mr. LIONEL BROUGH has had that experience which compels him in his current report to sigh for an increase in the number of stipendiary magistrates, still the offences which the mining manager may have as a rule to bring before a local judiciary their worships are not, now-a-day, indisposed to visit with the merited punishment. Hardly a month ago a miner was sent to the Wakefield House of Correction for two months, with hard labour, for having 2 inches of gauze off his lamp, and the lamp full of fire. This offence had been committed in no other place than the Oaks Colliery. The fellow should have been punished before, for on two previous occasions he had allowed the gauze of as many lamps to become red-hot. It is well known that in the district in which the Oaks Colliery is situated discipline is more complete than, perhaps, in any other.

If, then, such things be done in the green tree, what shall be done in the dry? the police details from North Staffordshire somewhat indicate. Lamps have lately been opened even at Talke, but the men immediately the offences were committed were arrested and imprisoned. We hope they will always be arrested and imprisoned whenever they are found to so offend. And we call upon every collier in the ranks, and every non-commissioned as well as commissioned officer in the army of fossil fuel miners, whenever any such act comes within their knowledge, to stop their ears to every other cry but that of justice, for through it alone in these matters can the claims of mercy be satisfied. How different a state of things, in all probability, would have existed at this moment in Ferndale if there had not been displayed an habitual pusillanimity on the part of colliers who saw others offend; and if there had at the same time been an unyielding determination by men in office that every offence should receive its merited chastisement. That, after what before happened at Ferndale, and in face of the increased restrictions upon acts of reckless folly, men should have been found not only to open their lamps there, but likewise to drill holes for blasting, is further conclusive that until another generation can be reared who shall be better fitted to take the place of the men who at present work underground, no man who is not a rigid disciplinarian is fit to have any authority in our coal mines.

Nor must the enforcement of the general and special rules be restricted to those pits where it is hardly possible for them to be infringed without a resultant disaster. This must not occur. A colliery manager, upon descending into a mine in which gas has never yet been seen, must not light his cigar—a proceeding which, to our own knowledge, happened not many days ago. The men noticing such acts of indiscretion, will be tempted to do likewise; and they will do it when they are in pits which are less free from the inflammable mixture. That, rather, must be the course pursued which we know to be habitual at a colliery which is managed chiefly by one of the proprietors of it—a man who began his business life by working underground as a boy, and who now insists upon every man under him observing, almost with punctiliousness, all the rules, even though certain of them may appear at first sight to be altogether unnecessary in respect of his workings. The result, it is gratifying to be able to add, in his case is that there are fewer accidents in his pits than in those of any other firm in the same district.

SAFETY-LAMPS.—Messrs. W. H. HALL and J. COOKE, of Birmingham, say their improvements relate to the manufacture of safety-lamps for burning petroleum or such like oils, and consist principally in constructing the burner so that the flame will burn in the lamp brightly, without additional glasses. The lamp they prefer is the "Stephenson's" lamp, or "Geordy." The burner is made by first casting a shell for the bottom part, and this is made so that it can be screwed to any ordinary Stephenson lamp in place of the common burner screw. On the top part of this shell is placed a diaphragm, which contains, or to which is fastened, the wick tube. The said diaphragm is raised in the centre (by preference) to allow space for the pinions or small wheels to be worked for raising or lowering the wick. Over this diaphragm and wick tube is placed a cone, which has an opening at the top for the flame to protrude, and several holes at the bottom to feed the flame. The wick tube is (by preference) flat, and reaches to the top of the dome. The parts of the burner are fastened together at the centre, and the pinions with the spindle for raising the wick are placed in their respective positions at the time. In constructing the lamp they prefer to form the top of a cone-shape, with holes round the base, and inside these holes (that is, inside the cone) they place a smaller cone or tube, without a top, so that it shall break the draught when it is strong, but still give egress to the foul air from the lamp.

BOILERS.—Mr. WILLIAM R. GRIFFITHS, of Stapleton-road, Bristol, has invented some improvements in boilers or steam generators, the object of which is to economise fuel by so constructing and arranging the heating surfaces of steam generators that as much as possible of the heat given off by the combustion of the fuel may be transmitted to the water contained in the boiler. In carrying out his invention, Mr. Griffiths constructs the main part of the boiler in the form of a wagon boiler, and the fire-bars may be either solid as usual, or made tubular so as to contain water, which will be heated by the incandescent fuel thereon. These fire-bars if tubular may be connected either at one or both ends with the main water chamber. Immediately above the fire-place there is another set of tubular bars also connected at one or both ends with the water space of the boiler. The heat from the fire below will act on these water tubes and quickly generate steam, but in order to prevent the heated gases from passing between the tubes without giving off their caloric flat iron plates are placed on the tubes, but space is left at the rear or inner end to allow the smoke and gases to pass up to the space above the tubes, and from thence out at the front of the boiler to a flue space above. By this arrangement of parts a vastly increased heating surface is obtained, and the boiler is not only compact but is more easily set than ordinary wagon boilers, inasmuch as the dome of brickwork or masonry can if desired be built upon and round the boiler itself, which simply rests on brickwork piers. The boiler may be made either with a water space at the inner end, or it may be built up of masonry. A space may be formed at the lower part of the boiler below the level of the fire-bars to form a mud space and the wall of an ash-pit.

UTILISING WASTE HEAT FROM GAS-FURNACES.—Mr. L. COIGNARD, of Paris, says his invention has for its object the application and utilisation of the waste heat of the furnaces employed for heating retorts used in the manufacture of coal-gas to the formation of steam for working pumping engines for supplying towns with water, whereby considerable economy of fuel is obtained, and the water supply of the town or other locality, by being thus carried out in conjunction with the production of the illuminating gas for the same town or locality, may be more economically conducted than heretofore. In carrying out this invention a peculiar arrangement of the flues of the steam boiler which works the pumping engine is required, such flues being so arranged as to admit either of the conjoint use of direct heat from the boiler furnace, and of the waste heat from the gas retort furnaces, or of the waste heat alone, as may be found requisite at different seasons of the year. For example, in summer, when more water will be required to be pumped into the town, there will be less gas made, and hence less waste heat available, consequently recourse must be had to direct heat from the boiler furnace itself as an auxiliary, whereas in winter the amount of available waste heat will be materially increased, and may even be sufficient to generate the steam without the use of direct heat from a special furnace under the boiler. The direct heat when employed passes from the furnace through a number of tubular flues in the generator, and then mingles with the waste heat from the gas retort furnaces, which traverses along external flues to and fro along the length of the boiler side, and finally passes off to a chimney or uptake. If desired a small supplementary steam generator or superheater may be placed in one of the external flues. When no direct heat is employed the communication between the flues or passages may be varied by the aid of dampers, so as to direct the waste heat first through the boiler tubes, and then to and fro along the external sides of the generator or boiler.

NEW MINING LAMP.—Mr. A. H. Gilmore, writing from the Junior Carlton Club, says—Seeing that in the mines at Ferndale, after the last awful explosion, an open lamp was, as usual, found in the workings, with pipe and tobacco by its side, and the dead body of the man who had, through carelessness and disobedience, hurled himself and 60 others into eternity, close to the lamp. Seeing these constant accidents occurring through the miners tampering with the lamps in order to light their pipes, I thought the matter over, and have invented a lamp whose lock cannot be tampered with without causing instantaneous extinction of the light. In your impression of this morning you mention that 1000 miners lose their lives annually from explosions in mines. I hope that my lamp may be the means of reducing the loss of life in mining to a minimum. I write this to you in order that hopes may be held out to those connected with mining operations that those who go down the shaft in the morning may have a reasonable hope of returning home unscathed in the evening, and that one careless man has not the power of casting death and destruction around him. Of course, the miners must be carefully searched before going down the mines to see that they have no matches about them; and in my opinion the possession of matches in a mine, or when going to a mine, ought to be a penal offence.

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending June 20 was 10,718*l.* 3s. 3d.

LEICESTERSHIRE—FREEHOLD FARM AND COAL FIELD.

MESSRS. CLEAR AND CHEFFINS are instructed by the Trustees for sale to SELL BY AUCTION, on Thursday, July 1st, 1869, at the Bell Hotel, Leicester, at Three for Four o'clock, all that VALUABLE FREEHOLD PROPERTY, known as

IBSTOCK LODGE FARM,

Containing 152 acres or thereabouts, of highly-productive ARABLE and PASTURE LAND, with FARM-HOUSE and suitable AGRICULTURAL BUILDINGS thereon, most advantageously situate in the parish of Ibstock, within a short distance of the Bagworth Railway station, and about 13 miles from the important and rapidly increasing town of Leicester.

Lying as it does in the immediate vicinity of the Ibstock Colliery, from which the best coal in Leicestershire is obtained, and also closely abutting on the coal fields of the Nailstone and Bagworth Collieries, it is beyond a doubt that the coal field from which these several collieries are supplied underlies the whole of this estate.

The following is an extract from the opinion of HENRY WAUGH, Esq., C.E., F.G.S., upon the underlying seams of coal in the Ibstock Lodge Farm:—

"Ibstock Lodge Farm, lying due east of Ibstock Colliery, is undoubtedly underlaid by the two great worked seams of this district—viz., the Main Coal of Coleorton and the Lower Main Coal of Ibstock, Bagworth and Nailstone Collieries. The dip of the coal measures is 5° east, without apparently any fault between the mines named. The two seams, 'Upper Main Coal' and 'Lower Main Coal,' are very valuable, the Lower is the favourite house coal of Leicestershire. In the opinion of some of the most experienced coal managers, the beds of the 'Moira' Coal Field underlie these measures."

Possession of the farm may be had at Michaelmas, and particulars and conditions of sale, with lithographed plans, may shortly be obtained of Messrs. FREER and REEVE, solicitors, Leicester; and of the auctioneers, Ethelburga House, 70 and 71, Bishopsgate-street Within, London, E.C.

SOUTH CARADON MINE.

MR. SOBEY WILL OFFER FOR SALE, BY PUBLIC AUCTION, at the London Inn, Liskeard, on Friday, the 9th of July next, at Three P.M., TWO (1-512th) PARTS or SHARES in the above VALUABLE DIVIDEND-PAYING MINE, acknowledged to be one of the most sound and prosperous speculations in the counties of Devon and Cornwall.

Dated Auction Offices, Parade, Liskeard, June 24, 1869.

GLAMORGANSHIRE.

IMPORTANT COLLIERY PROPERTY.

MR. ROBERT EVANS is favoured with the instructions of the proprietors TO OFFER FOR SALE, BY PUBLIC AUCTION, at the Guildhall Coffee House, Gresham-street, London, on Tuesday, July 13, at One for Two in the afternoon precisely (unless previously disposed of by private contract), the VALUABLE COLLIERY known as the

NORTH LANTWIT COLLIERY,

Near LLANTRISSANT, GLAMORGAN, about 14 miles from Cardiff, now in full working order, comprising all the SEAMS OF COAL under the Gelynog Estate, containing 149 acres, held on lease for 45 years at moderate royalties.

All the necessary works and appliances have been erected, and railway sidings and roads formed. Two pits, fitted with winding gear, complete, each 100 yards deep, brick-walled throughout, have already been sunk, winning the famous Lantwit Veins, and having the character of being the best house coal shipped in South Wales. The colliery has worked on the No. 3 Lantwit Vein upwards of 150 tons daily. It is now in active operation, and the openings in progress within six months time can be made adequate to a vend of 200 tons per day.

A private branch railway connects the Taff Vale Railway direct with the pits.

Particulars and conditions of sale, with plan, may be obtained of Messrs. TUCKER, NEW, and LANGDALE, Solicitors, 4, King-street, Cheapside, London: at the principal Inns at Swansea, Neath, Cardiff, and Newport; and of Mr. ROBERT EVANS, Land Agent and Auctioneer, Bridgend, Glamorganshire.

GLOUCESTERSHIRE.

VALUABLE MINING PROPERTY.

MESSRS. BRUTON AND KNOWLES (Auctioneers) WILL SELL, BY PUBLIC AUCTION, at the Bell Hotel, Gloucester, on Saturday, the 24th day of July, 1869, at Three o'clock in the afternoon (either together or in such lots as may be determined upon at the time of sale, and subject to such conditions as may be then produced), the VALUABLE FREEHOLD and LEASEHOLD

COAL AND HEMATITE IRON MINES,

And other property, situate at FRAMPTON COTTEREL, IRON ACTON, and RANGEWORTHY, in the county of GLOUCESTER, formerly belonging to the "CHILLINGTON IRON COMPANY," and now belonging to and carried on by the "FRAMPTON HEMATITE MINING COMPANY." Together with the

POWERFUL ENGINES, MACHINERY, AND PLANT

Of every description, in full working order.

The Mines are about two miles distant from the Yate Station upon the Midland Railway, and a branch from the Yate and Thornbury Branch Railway terminates upon the property.

Further particulars are in course of preparation, and may be obtained on and after the 30th inst. of the Auctioneer, Albion Chambers, King-street, Gloucester; at the offices, at Frampton Cotterel; and at the offices of Messrs. DODDS and TROTTER, No. 6, Pall Mall East, London, S.W., and Stockton-upon-Tees.

GLAMORGANSHIRE.

FREEHOLD ESTATE, RESIDENTIAL AND MINERAL—two miles from Pontypridd, four miles from Llantrissant, and twelve miles from the important and flourishing port of Cardiff—comprising the FARMS of TYR MAB ELLIS, COED-CAE-DDU, and PEN-COED-CAE, MANSION and GROUNDS, GROUND RENTS, STONE QUARRIES, and the various SEAMS of COAL (including the celebrated anthracite), which underlie the estate.

MR. D. T. ALEXANDER is favoured with instructions from the Devisee, under the will of Colonel John Hewett, to SELL, BY AUCTION, at the Angel Hotel, Cardiff, on Thursday, the 29th day of July, 1869, at Two for Three o'clock, the IMPORTANT and VALUABLE PROPERTY, known as the

TYR MAB ELLIS ESTATE,

In the following, or such other lot or lots as at the time of sale shall be declared.

LOT I.—The FARM, called "PEN-COED-CA" (otherwise Caerlan and Tylwyd), with HOMESTEAD, BUILDINGS, COTTAGES at rack and ground rents, and productive PASTURE and ARABLE LAND, together with valuable STONE QUARRIES in full work, containing in the whole about 116 A. 1 R. 5 P., situate in the parishes of Llantwit Vardre and Llantrissant, in the occupation of Mr. John Jenkins, and others.

LOT II.—The MANSION of TYR MAB ELLIS, with the BUILDINGS, PLEASURE GROUNDS, GARDENS, ORCHARDS, and productive LANDS thereto belonging, containing in the whole 78 A. 3 R. 34 P., or thereabouts, situate in the parishes of Llantrissant and Llantwit Vardre, in the occupation of Capt. Hewett, R.M., and others.

LOT III.—The FARM, called "COED-CAE-DDU," with HOMESTEAD, BUILDINGS, COTTAGES at rack and ground rents, and productive PASTURE and ARABLE LAND, containing in the whole 100 A. 3 R. 1 P., or thereabouts, situate in the parishes of Llantrissant and Llantwit Vardre, in the occupation of Mr. James Coombs, and others.

The valuable MINERALS underlying each lot will be included in and sold therewith.

The attractive mansion and grounds are in an admired situation of the neighbourhood, commanding panoramic views of varied beauty and great extent, and affording a residence suitable to the requirements of a capitalist desiring to possess and develope the valuable resources of the estate.

The reports of eminent mining engineers leave no doubt that the remunerative seams of coal found at Merthyr, Aberdare, Rhondda, and Llantwit will all be proved upon this estate.

The Taff Vale and Llantrissant Railway runs at the foot of the estate, and affords communication with the Llynvi, Ogmore, and Llantrissant Junction Railways.

Lithograph plans, and particulars and conditions of sale, can be had, on and after the 1st July, upon application to H. HOLLAND BURNE, Esq., 15, Vineyards, Bath; or to the Auctioneer, Institute Chambers, Pontypridd.

WEDNESBURY.

VALUABLE MINES OF COAL, ETC.

TO BE SOLD OR LET, with IMMEDIATE POSSESSION,

THE LEA BROOK COLLIERY,

WEDNESBURY, STAFFORDSHIRE, consisting of the remaining MINES and MINERALS, down to and including the NEW MINE COAL, in and under THIRTY ACRES OF LAND, or thereabouts.

The colliery is now in good working order and condition.

The loose working stock and plant to be taken at a valuation. The fixed machinery and plant may be either purchased or rented.

For particulars, apply to Mr. SEAMAN, solicitor, Wednesbury; or to Mr. DAVID PEACOCK, Mining Engineer, Horseley, Tipton.

TO BE SOLD, BY PRIVATE CONTRACT,—

ONE HIGH-PRESSURE STEAM ENGINE, 20 in. cylinder, 4 ft. stroke, with TWO BOILERS, pit frame work, 150 fms. of wire rope, and 60 fms. of 11 in. pumps, with clack doors, door-piece, &c., complete, and all nearly new.

ONE HIGH-PRESSURE STEAM ENGINE, 16 in. cylinder, with BOILER, pit frame work, bricks in stacks, and 15 fms. of 11 and 14 in. pumps, with clack doors, &c.

TEN COAL and CULM WAGONS, to carry 1 ton each.

THIRTY TONS of FLANGE RAILS (15 lbs. to the yard), with sleepers, incline chain, and two incline wheels.

WEIGHBRIDGE, and sundry OLD IRON.

The above-mentioned engines, &c., have until recently been at work at the Land Shipping Colliery, on the shores of Milford Haven, and, the railway extending to the wharf, are conveniently situate for removal by water.

ALSO, TO BE LET,

THE LAND SHIPPING COLLIERY,

With the MINERALS under the whole of the Land Shipping Estate, of which upwards of FIFTEEN HUNDRED ACRES are situate in the coal field of PEMBROKESHIRE. The Land Shipping Colliery has for many years been most successfully worked, and has been celebrated for producing anthracite coal and culm of the very best quality, the former having commanded in the London and other markets a price higher than any other coal, and, at this time, the demand for culm in Milford Haven is far in excess of the supply.

Apply to WILLIAM M. HACON, Esq., 18, Fenchurch-street, London; or to Mr. JOHN THOMAS, Land Agent, 1, Castle-terrace, Haverfordwest.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Devon.

IN the MATTER of the COMPANIES ACT, 1862 and 1867, and of the EAST WHEAL RUSSELL MINING COMPANY.—TO BE SOLD, under the direction of the Registrar of the said Court, BY PUBLIC AUCTION, on Tuesday, the 29th day of June instant, at Eleven o'clock in the forenoon, at the

EAST WHEAL RUSSELL MINE,

In the Parish of TAVISTOCK, within the said Stannaries, either together or in lots, all that the unexpired INTEREST of the said company in the SETT or SETTS under which its mining operations have been carried on, and also the undermentioned MINING MACHINERY, MATERIALS, and EFFECTS, viz.:—

ONE 40 in. cylinder steam PUMPING ENGINE, 9 ft. stroke, equal beam, with 2 10 ton BOILERS.

ONE 30 in. cylinder WHIM ENGINE, adapted for pumping or hauling, with 1 10 ton BOILER.

ONE 12 and 7 in. combined WHIM ENGINE, Cornish crusher, with 2 ft. rolls, balance bob, complete; cast iron ditto; 50 ft. shears and pulleys, complete; 2 8 arm capstans; 100 fms. 12½ in. capstan rope; poppet head and stays; angle bob, complete; 100 fms. 2½ in. flat rods; 28 13 in. pumps; 35 12 in. ditto; 3 15 in. ditto; 11 10 in. ditto; 16 9 in. ditto; 28 8 in. ditto; 1 12 in. windbore; 2 12 in. H pieces; 2 12 in. door and door pieces; 1 11 in. H piece; 1 11 in. door and door piece; 2 12 in. plunger pole; box and gland; 3 11 in. ditto; 18 pieces of 7 in. wood main rod; 14 pieces of 10 in. ditto; 68 strapping plates, different widths; staples and glands; rods, bolts, and bars; flange bolts; several tons of chain; ditto of tram iron; 2½ in. by ⅞ in. tram saddles; punches and tram wagons; shaft rolls; cobbing mills; loops and chains; whim pulleys; 2 crab winches; travelling bob; several tons of bucket rods; pump rings; lot of whim and other pulleys; zinc and other air pipes; 2 jigging machines; hutches and flooring; sample table; about 200 fms. launders; lot of new and other useful iron; 30 new cobbing hammers; box of gun cotton and cartridges; 23 sieves; screw stocks; taps and plates; 95 shaft rolls; treble, double, and single iron blocks; bell, beam, scales, and weights; 3 large wood dressing sheds, and several 100 ft. of floors; 2 20 in. and 2 9 in. drying pipes; grindstone and frame; lot of new nails; 2 anvils, bellows, vice, mandrill; smiths' and miner's tools; wheel and handbarrows; balk and timber; account house furniture, and a variety of other articles and effects in general use in mines.

For further particulars, apply to the Officer in possession at the mine.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated Truro, June 15th, 1869.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the GREAT WHEAL BUSY MINING COMPANY.—TO BE SOLD, BY PUBLIC AUCTION, at and upon the

GREAT WHEAL BUSY MINE,

In the Parish of KENWYN, in the County of CORNWALL, under the direction of the Registrar of this Court, on Tuesday, the 6th day of July next, at One o'clock in the afternoon, subject to such conditions as shall be then and there produced, in one or more lots, as may be then and at that time agreed on, the undermentioned MACHINERY, PITWORK, AND MATERIALS, viz.:—

TWO 11 ton BOILERS at great engine.

22 in. PUMPING ENGINE, with ONE BOILER.

Several 9 ft. 14 in. PUMPS.	3 6 ft. 11 in. ditto.
18 9 ft. 13 in. ditto.	Large iron beam, beams, scales, and weights.
1 19 in. 11½ ft. pole case.	
1 14 in. 3 ft. matching piece.	About 15 cwts. of iron pipes.
2 13 in. doorpieces.	Small pole and screwing iron.
1 13 in. 6 ft. clack seat piece.	Wood axle and turn lathe.
1 12 in. 10 ft. windbore.	Shears, with 2 shieves, winch above stamps.
1 12 in. 4 ft. ditto.	1 anvil, 4 smiths' bellows.
1 13 in. 6 ft. ditto.	

A quantity of old iron, timber, &c., and a variety of other materials and effects in general use in mines.

To view the above, or any part thereof, application should be made to Mr. SAMUEL OSBORNE, the officer of the Court in charge thereof.

J. ROBERTS, Truro

(Agent for Messrs. Stephens, Prance, and Jago, Solicitors, Plymouth).

Dated Registrar's Office, June 23, 1869.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH HALLENBEAGLE TIN AND COPPER MINING COMPANY (LIMITED).—ALL CREDITORS or CLAIMANTS of the ABOVE COMPANY, who have not received notice from the Registrar of the said Court that their claims have been already admitted, are hereby REQUIRED to COME IN and PROVE their SEVERAL DEBTS or CLAIMS at the Registrar's Office, Truro, on Tuesday, the 6th day of July next, at Eleven o'clock in the forenoon, or in default thereof they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are either to attend in person, or by their solicitors or competent agents, or (unless such attendance be required by the Registrar's summons) they are to send affidavits of their several debts or claims to the Registrar of the Court, at Truro, such affidavits being sworn either before some Commissioner of the said Court, or before any Court Judge, Justice, or any Commissioner of one of the Superior Courts, lawfully authorised to take and receive affidavits and affirmations.

FREDERICK MARSHALL,

Registrar of the above-named Court, Truro, Cornwall.

Dated Registrar's Office, Truro, June 24, 1869.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and in the MATTER of the TREVESA AND BREA TIN AND COPPER MINING COMPANY (LIMITED).—ALL CREDITORS or CLAIMANTS of the ABOVE-NAMED COMPANY, who have not received notice, or other intimation, from the Liquidator of the said company that their claims have been already admitted, are hereby REQUIRED to COME IN and PROVE their SEVERAL DEBTS or CLAIMS at the Registrar's Office, Truro, on Thursday, the 8th day of July next, at Eleven o'clock in the forenoon, or in default thereof they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are either to attend in person, or by their solicitors or competent agents, or (unless such attendance be required by the Registrar's summons) they are to send affidavits of their several debts or claims to the Registrar of the Court, at Truro, such affidavits being sworn either before some Commissioner of the said Court, or before any Court Judge, Justice, or any Commissioner of one of the Superior Courts, lawfully authorised to take and receive affidavits and affirmations.

FREDERICK MARSHALL,

Registrar of the above-named Court, Truro, Cornwall.

Dated Registrar's Office, Truro, June 22, 1869.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL PAR MINING COMPANY.—The Registrar of this Court has appointed FRIDAY, the 2d day of July next, at the Registrar's Office, at Truro, to SETTLE THE LIST OF CONTRIBUTORIES OF THE ABOVE-NAMED COMPANY, now made out and deposited at the said office.

FREDERICK MARSHALL, Registrar of the said Court.

Dated the 21st day of June, 1869.

In Chancery.

TO BE SOLD, pursuant to an Order of the High Court of Chancery, made in a Cause Ramsbottom *v.* Morrell, with the approbation of the Master of the Rolls, by MR. HENRY BRUTON, the person appointed by the said Judge, at the Bell Hotel, Gloucester, in the county of Gloucester, on Thursday, the 22d day of July, 1869, at One for Two o'clock precisely, in Three Lots, certain FREEHOLD and LEASEHOLD ESTATES, comprising

EXTENSIVE COLLIERIES AND VALUABLE COAL FIELDS,

Situate partly in, and partly adjacent to, the Forest of Dean, in the county of Gloucester, known as

"THE NORCHARD AND KIDNALLS COLLIERIES,"
"THE RISING SUN ENGINE COLLIERY," and
"THE UNION COLLIERY,"

Late the property of James Morrell, deceased.

Particulars and conditions of sale may be had gratis of Mr. GRAHAM, Solicitor, Abingdon, Berks; Messrs. PRIOR and BIGG, Solicitors, 38, Southampton Buildings, London; Messrs. WINTLE and MAULE, Solicitors, Newnham, Gloucestershire; Mr. HENDERSON, the manager, Lydney, Gloucestershire, who will show the property; and of the Auctioneer, at King-street, Gloucester; and at the place of sale. ROBERT MARSHALL, Chief Clerk.

Dated this 9th day of June, 1869.

In Chancery.

IN THE MATTER OF THE COMPANIES ACT, 1862,

AND IN THE MATTER OF

THE CEFN CILCEN MINING COMPANY (LIMITED).

TO BE SOLD, pursuant to an Order of the High Court of Chancery, made in the above matter, with the approbation of the Vice-Chancellor, Sir John Stuart, in One Lot, by Messrs. Lloyd and Jones, the auctioneers appointed by the said Judge, at the Dolphin Inn, Mold, in the county of Flint, on Tuesday, the 29th day of June, 1869, at One o'clock precisely, all that LEASEHOLD LEAD MINE, situate in the parish of CILCEN, in the county of FLINT, late the property of the above-named CEFN CILCEN MINING COMPANY (Limited), held under leases for a term of 21 years, commencing 1859 and 1860, at 1-10th dues, together with the whole of the plant and materials belonging to the said company.

In the event of the mine not being sold in one lot, the leases will be sold separately in three lots, and the plant and materials sold in lots to meet the convenience of purchasers.

Particulars and conditions may be had gratis of Mr. GEORGE WHIFFIN, the official liquidator of the above-named company, of 8, Old Jewry, in the City of London; of Mr. ANTHONY PULBROOK, of 28, Threadneedle-street, London, solicitor; of Messrs. LLOYD and JONES, the auctioneer, at Mold; and at the said Dolphin Inn, Mold. ALFRED HALL, Chief Clerk.

ANTHONY PULBROOK, 28, Threadneedle-street, in the City of London (Solicitor to the Official Liquidator).

In the Matter of the Companies Acts, 1862 and 1867,

AND IN THE MATTER OF

THE VALGODEMARD MINING COMPANY.

TO BE SOLD, BY PUBLIC AUCTION, by order of the Liquidators, and with the sanction of the Court of Chancery, at the Chambre des Notaires, Paris, on Tuesday, the 6th July next, at Twelve o'clock, the valuable COPPER, SILVER, and LEAD MINES, known as

THE VALGODEMARD MINES,

Situate at St. Maurice, in the Department of the High Alps, in the Empire of France; together with the LANDS, HOUSES, MACHINERY, and FIXED and LOOSE PLANT.

The dressing-floors are most conveniently situated for receiving the ore of the whole valley, and the machinery and plant are almost new, of the best description, and in perfect working order.

Printed particulars and conditions of sale can be obtained upon application to M. MOREAU, Notary, 55, Rue Vivienne, Paris; Messrs. VALLANCE and VALLANCE, 20, Essex-street, Strand; or to the Liquidators, at the offices of Messrs. GOOD and DANIELS, Public Accountants, 71, Cornhill, London, E.C.

In the Matter of the Companies Act, 1862,

AND THE BWLCH-Y-PLWM LEAD MINING COMPANY (LIMITED).

TO BE SOLD, BY AUCTION, by Messrs. E. OWEN AND SON, on Thursday, the 15th day of July, 1869, at Three o'clock in the afternoon, at the Queen's Hotel, Chester (subject to conditions to be then and there produced), the company's interest in all that valuable LEAD MINE, called

"THE BWLCH-Y-PLWM,"

Situate in the parish of LLANFROTHEN, in the county of MERIONETH, NORTH WALES, together with the PLANT, consisting of a valuable WATER-WHEEL and gearing, PUMP, WASHING GEAR, and other effects, all in good working condition.

The property is offered for sale for the residue of a term of 21 years, which commenced on the 25th day of March, 1863, and subject to a dead or minimum rent of £100 per annum; but the lessor has consented to accept a surrender of the present lease, and grant a new one, at the reduced annual dead rent of £25 to a responsible purchaser.

For further particulars, apply to Mr. WILLIAM CASSON, Port Madoc; Mr. WILLIAM CRIPPIN, Seymour House, Old Trafford, Manchester; Mr. DANIEL CLARKE, No. 13, Pitt-street, Liverpool; Mr. WILLIAM RADCLIFFE, Solicitor, No. 12, Sweeting-street, Liverpool; or to the Auctioneers, Bridge-street, Carnarvon.

SALE OF MINE PROPERTY—BY TENDER.

SHROPSHIRE COPPER MINING COMPANY (LIMITED).

IN LIQUIDATION.

BY ORDER OF THE LIQUIDATOR.

TO BE SOLD, BY TENDER, all the ESTATE and beneficial and other INTEREST of the said company of and in the LEASE or GRANT of MINERALS in, under, or upon WESTCOTT FARM, and other parts of the GATTEN ESTATE, SHROPSHIRE, demised by a certain indenture of lease thereof, dated the 30th day of December, 1865, and by a certain other indenture, dated the 12th day of April, 1867, endorsed on that of the former indenture; and also all the MACHINERY, PLANT, MINING GEAR, TOOLS, TACKLE, MATERIALS, ORES, HALVANS, and APPURTENANCES of the said company, the said MINES and MINERALS belonging or appertaining.

The Liquidator will receive at his offices, No. 30, Castle-street, Liverpool, sealed tenders, endorsed "Tenders for Shropshire Copper Company's Mine, Machinery, and Effects, at Westcott," up to Two o'clock on Thursday, the 15th day of July, 1869, at which time and place the said tenders will be opened, and the purchaser declared.

The purchaser will be required to pay a deposit of 20 per cent. on the amount of the purchase-money on his tender being accepted, the purchase to be completed and the balance of the purchase-money paid, within two months from the payment of the deposit.

The Liquidator does not bind himself to accept the highest or any tender.

Inspection of the machinery, and other effects at the Mine, can be had on production to Capt. JAMES NANCARROW, on the Mine, of an order for that purpose from the Liquidator, and any further information, with inspection of the leases and schedule of the principal effects, obtained from the Liquidator,

June, 1869. Mr. T. W. READ, 30, Castle-street, Liverpool.

GUNPOWDER MANUFACTORY TO BE SOLD.

THE PLYMOUTH AND DARTMOOR GUNPOWDER WORKS, LIDFORD, DEVON, including MACHINERY, MAGAZINES (in the Western Counties, Wales, and elsewhere), STORES, and EXTENSIVE BUILDINGS, with or without the STOCK, TRADE ASSETS, &c.

These works are held for a long lease, and are situate on Dartmoor, Devon, remote from population and buildings, are worked by water-power, and are of a capacity to do an extensive and lucrative business, the Port of Plymouth affording abundant opportunities of shipment to all parts of the world.

There is railway communication for a part of the way from the port to the works, and a survey is now in progress for making a branch to Prince Town, about three miles from the factory.

This establishment was carried on with great success for nearly twenty years.

The recent collapse of the Devon and Cornwall mining interest has occasioned a partial and temporary loss of a home market, and some of the proprietors are averse to enter largely on a foreign trade, for which a good connection is offered.

The terms on which the property may now change hands are of the most liberal and advantageous character to the buyer, and at least one-third of the present proprietary would, if desired, unite with the purchaser to carry on an extended business.

For particulars, apply to Mr. CROKER, the Secretary, at the offices, Tavistock-street, Plymouth, or to Messrs. WHITEFORD and BENNETT, Solicitors, Plymouth.

Plymouth, June 17th, 1869.

SOUTH EXMOUTH MINE, HENNOOK, DEVON.

FOR SALE, BY PRIVATE CONTRACT, the following FIRST-CLASS ENGINES and MINING MATERIALS, viz.:—

40 in. cylinder PUMPING ENGINE.
25 in. cylinder WHIM ENGINE, with CRUSHER attached.
100 fms. 11 and 12 in. PUMPS.

Water wheels, tram iron, smith's bellows, timber, and various useful mining materials.

Apply to Capt. JOHN CORNISH, Frank Mills Mine, Christow; or to Mr. J. O. HARRIS, Public Accountant, 2, Gandy-street, Exeter.

Exeter, 24th June, 1869.

FOR SALE,—ONE 40-in. cylinder PUMPING ENGINE, with ONE BOILER, 10 tons.

ONE WATER-WHEEL, 60 ft. diameter, 2½ ft. breast, with cast-iron rings, sockets, saddles, and brasses, and hammered iron axle.

ONE cast-iron RING for WATER-WHEEL, 27 ft. diameter.

ONE DRAWING MACHINE, with 300 fms. ¾ in. best chain.

30 fms. 11 in. PUMPS; 40 fms. 9 in. PUMPS; 23 fms. 8 in. PUMPS.

130 fms. 2¼ in. IRON FLAT RODS, with pullies and brackets for same.

50 fms. 2 in. ditto ditto ditto.

IRONWORK FOR SHAFT; ANGLE AND BALANCE BOBS.

For further information respecting the above machinery, apply to—

WM. LANGDON, IRON FOUNDER, &c., LAUNCESTON, CORNWALL.

FOR SALE,—THE UNDERMENTIONED ENGINES AND WATER WHEELS:—

ONE 60 in. cylinder ENGINE, 10 ft. stroke in cylinder, and 9 ft. in shaft; with TWO Cornish BOILERS, 10 tons each.

ONE 56 in. cylinder PUMPING ENGINE, 9½ ft. stroke, equal beam; with TWO Cornish BOILERS.

ONE 50 in. cylinder PUMPING ENGINE; with ONE BOILER.

ONE 12 in. cylinder rotary STEAM ENGINE, with ONE 6 ton BOILER.

The whole of the above engines are in excellent condition, some being nearly new.

WATER WHEELS.

ONE WATER WHEEL, 40 ft. diameter, and 8 ft. abreast.
ONE ditto 60 ft. ditto 3½ ft. abreast.

The above wheels have cast-iron rings, sockets, and axles.

Also, several Cornish CRUSHERS, of various sizes.

For further information respecting the above machinery, apply to W. MATHEWS, Engineer, Tavistock.

Tavistock, April 1, 1869.

FOR SALE, cheap, a 16-horse power PORTABLE STEAM ENGINE, new, and with all recent improvements, guaranteed.

FIRST-CLASS PORTABLES, 5 to 25-horse power, on advantageous terms. Prize Medals awarded—Hamburg, 1863; Paris, 1867, &c.

FOR SALE, EIGHT very superior SECONDHAND PORTABLE STEAM ENGINES, 5 to 10-horse power, by eminent makers, in excellent condition.

BARROWS AND STEWART, ENGINEERS, BANBURY

TO COLLIERY PROPRIETORS.

UPWARDS of 6000 LARCH, 4000 OAK POLES, 200 OAK and OAK PLANKS upwards of 20 feet long; ELM COAL-PIT RINGS, ready cut, in stock.

All kinds of ENGLISH TIMBER supplied in the round, and OAK and LARCH SCANTLING cut to sizes for railway and coal-wagon building.

Dealer in all kinds of BRITISH TIMBER.

MILLWRIGHTS, ENGINEERS, COACH BUILDERS, WHEELWRIGHTS, &c., supplied on the most reasonable terms.

JAMES ATKINSON,

No. 63, GRANBY ROW, MANCHESTER.

DYNAMITE, OR NOBEL'S PATENT SAFETY BLASTING POWDER.

DYNAMITE is the SAFEST and most POWERFUL BLASTING COMPOUND in general use. Accidents are almost impossible, as it is only exploded by a strong percussion cap. It will not explode from a spark or concussion. If set fire to, it burns quietly and harmlessly away, without smoke or any explosion. Prepared in cartridges for mines and underground workings. Sold by—

WEBB AND CO., CARNARVON,

Sole consignees in England from the Patentee and Manufacturer.

IMPORTANT TO COLLIERY OWNERS, AND THE PROPRIETORS OF IRONSTONE, LEAD, AND COPPER MINES, TRAMWAYS, &c.

THE PATENT WROUGHT-IRON SLEEPER,

Combining a SLEEPER and TWO CHAIRS IN ONE PIECE.

The SLEEPER can be made to suit any required section of rail, either double-headed, flat-bottomed, or bridge, and the channel section of iron, of which the sleeper is made, can be manufactured of various breadths, and of weights varying from 6 lbs. to 20 lbs. per yard.

Among the advantages of the WROUGHT-IRON SLEEPER are—
1.—The way can be laid more quickly, and with less manual labour.
2.—The channel section of the iron sleeper beds itself more firmly in the ballast, with the most rigid accuracy of guage.
3.—The continued re-laying of rotten or broken wooden sleepers is no longer required.
4.—The iron sleeper is cheaper in the long run than the wooden, which is proved by the fact that on the Continent, where the cost of wood is considerably less than in England, the iron sleepers are universally used.
5.—All the losses or damages arising from the ordinary system, from the way getting out of guage, chairs or sleepers breaking, chair fastenings becoming loose and injuring the horses' feet, are avoided.

For further particulars, apply to the Sole Licensees,—

GEORGE HOPPER AND SON,
BRITANNIA IRONWORKS,
FENCE HOUSES, DURHAM,
IRON FOUNDERS, ENGINEERS, & IRON MANUFACTURERS,
WAGON AND TRUCK BUILDERS,
MANUFACTURERS OF CAST AND WROUGHT-IRON WHEELS, SPOKES
BOLTS AND NUTS, BAR, ANGLE, AND TEE-IRON, RAILS,
IRON SCREENS, CAGES, AND COAL TUBS.
SMITH WORK AND FORGINGS OF EVERY DESCRIPTION.

ESTABLISHED MORE THAN HALF A CENTURY.

THE TAVISTOCK FOUNDRY, IRONWORKS AND HAMMER MILLS,
which have been carried on for more than half a century by
MESSRS. GILL AND CO.,
and obtained a
HIGH REPUTATION FOR
SHOVELS AND OTHER TOOLS
as well as for
ENGINEERING AND FOUNDRY WORK.
have been purchased by
MESSRS. NICHOLLS, MATHEWS, AND CO.,
BEDFORD IRONWORKS, TAVISTOCK.

For thirty years Messrs. NICHOLLS, MATHEWS, and Co., have been the proprietors of the latter works, but have now removed to the
TAVISTOCK FOUNDRY,
where, having the advantage of a never-failing stream of water of upwards of 200-horse power, they will have increased facilities for speedily and satisfactorily executing all orders entrusted to their care.
Manufacturers of STEAM ENGINES and BOILERS, on the newest principle; pump work, brass and iron; hammered iron shafts, of all sizes; miners' steel and iron tools.
N., M., AND Co. have had a LARGE EXPERIENCE in PREPARING MACHINERY for FOREIGN MINES, as well as selecting competent mechanics to erect the same.
N., M., AND Co. have always a LARGE STOCK of SECOND HAND MATERIALS.

IMPROVED APPLICATION OF WATER POWER.

THE TURBINE.

MAC ADAM BROTHERS AND CO., ENGINEERS, SOHO FOUNDRY, BELFAST, after twenty years of experience, have brought heir IMPROVED TURBINE to great perfection.
It is applicable to all practicable heights of fall, giving much greater power rom the water than any other kind of water-wheel.
On low falls it has the great advantage of not being impeded by floods or backwater.
It is particularly well adapted for situations where the quantity of water is variable, and where all other wheels fail.
Its motion is extremely regular, and, when desired, a governor can be applied effectively.
This wheel is at work in a great many places, to which reference will be given.

PULVERISED MAGNETIC ORE,
For CLEANING and POLISHING STEAM ENGINES, BRASS, STEEL, and COPPER, and other purposes. Also as KNIFE POWDER.
1 cwt. ..... 8s. 0d.
Quantities of not less than 1 ton will be delivered at the Dolgelly Railway Stations, and to be had at the Mill, Upper Smithfield-street, Dolgelly, or of the principal agents of the owner. THOMAS SCOTT, Manager.
WORKS,—UPPER SMITHFIELD STREET, DOLGELLY, NORTH WALES.

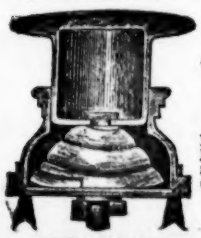
HESLOP AND WILSON,
IRON, METAL, AND GENERAL MERCHANTS,
AND ENGINEERS,
40, DEAN STREET, NEWCASTLE-ON-TYNE.
EVERY DESCRIPTION of MACHINERY, ENGINEERS' TOOLS, &c. Portable and stationary ENGINES. MILLS, PUMPS, TURBINES, PATENT FANS, AGRICULTURAL MACHINERY, and IMPLEMENTS, STEEL TYRES, RAILS, &c.
COLLIERY STORES—Ropes, Spun Yarn, Waste, Leather, Shovels, Picks, Nails, Chain, Bar-iron and Plates, &c. Solid Cast-steel Sinkers' Hammers and Picks. Brass and Iron Tubes, Nuts, Bolts, Rivets, &c.
ESTIMATES, DESIGNS, TRACINGS.
Price-book on application.

PIT BAROMETERS—MINING INSTRUMENTS.

JOHN DAVIS,
MANUFACTURER OF MINING AND SURVEYING INSTRUMENTS,
DERBY.
MAKER (by appointment) of HEDLEY'S DIALS.
Price List on application.
STERNE'S PATENT PNEUMATIC SPRINGS FOR COAL CAGES.
Price £8 10s. per set of four.

COLLINGE'S PATENT SPONGE CLOTHS,
FOR CLEANING STEAM ENGINES, EVERY DESCRIPTION OF MACHINERY, LAMPS, WINDOWS, &c., &c.
Being a woven fabric, they are easily washed, say 20 times, consequently do no cost one-fourth the price of cleaning waste.
TRADE ALLOWANCE MADE TO DEALERS, FACTORS, AND AGENTS.
Samples and prices upon application to—
DANIEL COLLINGE AND SON,
1, PEEL STREET, MANCHESTER.

THOMAS TURTON AND SONS,
MANUFACTURERS OF

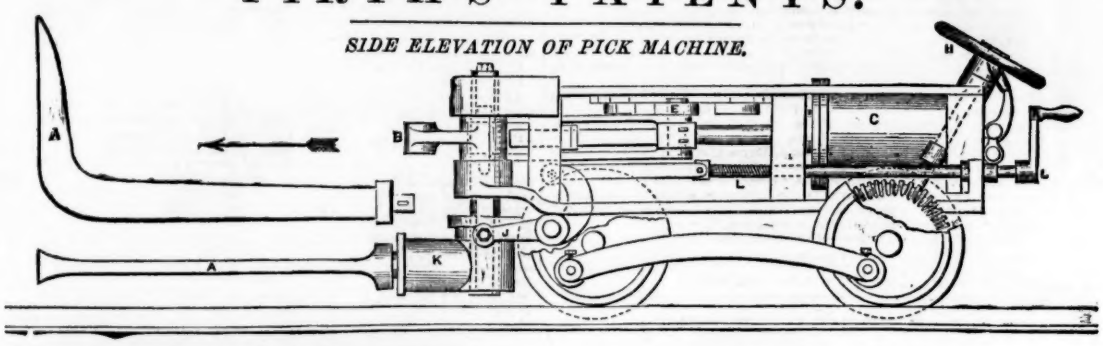


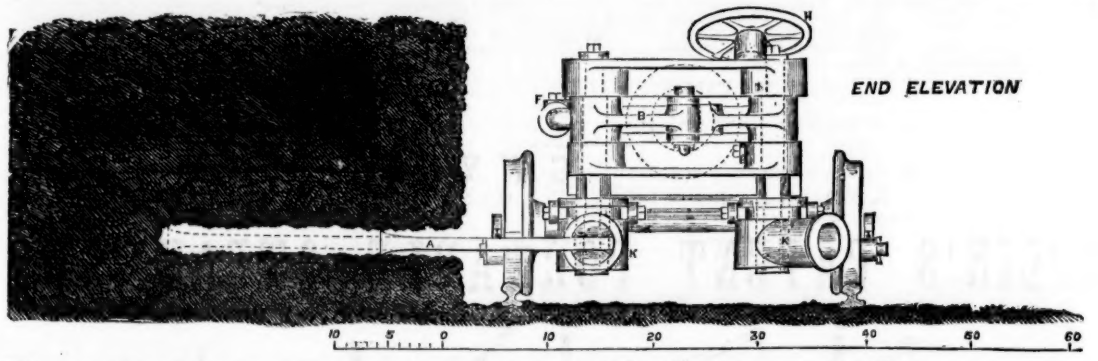
CAST STEEL for PUNCHES, TAPS, and DIES, TURNING TOOLS, CHISELS, &c.
CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT and CRANK AXLES, SHAFTS and FORGINGS of EVERY DESCRIPTION.
DOUBLE SHEAR STEEL, BLISTER STEEL, SPRING STEEL, GERMAN STEEL,
FILES MARKED T. TURTON
EDGE TOOLS MARKED WM. GREAVES & SON
Locomotive Engine, Railway Carriage and Wagon Springs and Buffers.
SHEAF WORKS AND SPRING WORKS, SHEFFIELD.
LONDON WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.
Where the largest stock of steel, files, tools, &c., may be selected from.

COMPRESSED AIR COAL-CUTTING MACHINERY.

FIRTH'S PATENTS.

SIDE ELEVATION OF PICK MACHINE.





These Machines are now working with the most perfect success,
Both practically and commercially.

They are portable, easily managed, and not more liable to get out of order than other ordinary machinery.
They EXPEDITE the OPENING of NEW PITS. There is LESS BREAKAGE of COAL, and a consequent INCREASE in its VALUE, with a DECREASE in its COST of PRODUCTION.
The VENTILATION OF THE MINE IS IMPROVED, the RISK OF ACCIDENTS DIMINISHED, and the SEVERE PHYSICAL CONDITIONS of COAL-PIT LABOUR are, by the USE of these MACHINES, MODIFIED and MUCH RELIEVED.

For terms of use, and for admission to see the machines at work, apply to—
MR. FIRTH 15, YORK PLACE, LEEDS.

MUSHET'S
TITANIC CAST STEEL,
FOR LATHE TOOLS, DRILLS, CHISELS, TAPS AND DIES, &c., &c.

MUSHET'S TITANIC BORER STEEL.

MUSHET'S WELDING CAST STEEL.

SOLID CAST STEEL HAMMERS AND SLEDGES.

SOLE MANUFACTURERS,
TITANIC STEEL AND IRON COMPANY, LIMITED,
COLEFORD, GLOUCESTERSHIRE.
LONDON: Enquiries may be addressed to Mr. HENRY MUSHET, LOMBARD EXCHANGE, LOMBARD STREET, E.C.
AGENTS FOR SCOTLAND: Messrs. JOHN DOWNIE and CO., 1, ROYAL BANK PLACE, GLASGOW.

ORMEROD, GRIERSON, & CO.,
ST. GEORGE'S IRONWORKS, HULME, MANCHESTER,
Have the largest assortment in the Trade of PATTERNS,
SPUR WHEELS, BEVEL WHEELS, MITRE WHEELS.
WITH TEETH CUT BY MACHINERY. Also,
FLY WHEELS, DRIVING PULLEYS, AND DRUMS
CAN BE SUPPLIED BORED AND TURNED, IF REQUIRED.
CATALOGUES ON APPLICATION.
ALSO, MANUFACTURERS OF BLAST ENGINES, COLLIERY AND ALL OTHER DESCRIPTIONS OF STATIONARY ENGINES AND BOILERS, MILL GEARING, &c.

PATENT FLEXIBLE TUBING,
AND BRATTICE CLOTH FOR MINES
MANUFACTURED BY
ELLIS LEVER,
WEST GORTON WORKS, MANCHESTER.

BICKFORD'S PATENT SAFETY FUSE

Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at the "INTERNATIONAL EXHIBITION" of 1862, in London; at the "IMPERIAL EXPOSITION" held in Paris, in 1855; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; and at the "UNIVERSAL EXPOSITION, in Paris, 1867.

BICKFORD, SMITH, AND CO., of TUCKINGMILL, CORNWALL, MANUFACTURERS of PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—
EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

GARNOCK BIBBY, AND CO.,
MANUFACTURERS OF
IMPROVED PATENT CORDAGE,
MANILLA, COIR, AND WIRE ROPE,
LIVERPOOL.

JOHN AND EDWIN WRIGHT,
PATENTEES.
(ESTABLISHED 1770.)
MANUFACTURERS OF EVERY DESCRIPTION OF IMPROVED
PATENT FLAT AND ROUND WIRE ROPES
From the very best quality of charcoal iron and steel wire.
PATENT FLAT AND ROUND HEMP ROPES.
SHIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CONDUCTORS, STEAM PLOUGH ROPES (made from Webster and Horsfall's patent steel wire), HEMP, FLAX, ENGINE YARN, COTTON WASTE, TARPAULING, OIL SHEETS, BRATTICE CLOTHS, &c.
UNIVERSE WORKS, MILLWALL, POPLAR, LONDON.
UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM
CITY OFFICE No. 5, LEADENHALL STREET, LONDON, E.C.

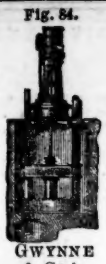
THE NEWCASTLE CHRONICLE AND NORTHERN COUNTIES ADVERTISER. (ESTABLISHED 1764.)
Published every Saturday, price 2d., or quarterly 2s. 2d.
THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER.
Offices, 42, Grey-street, Newcastle-upon-Tyne; 50, Howard-street, North Shields; 195, High-street, Sunderland.

Fig. 86.

GWYNNE & CO.'S IMPROVED CHAIN-PUMP,
Worked direct by Steam-Engine.

These pumps work without valves or packing, and raise a considerable quantity of water. They will lift sand, mud, or grit without choking, and require only very inexpensive repairs.

Fig. 84.



GWYNNE & CO.'S DOUBLE-ACTING PUMPING-ENGINE.

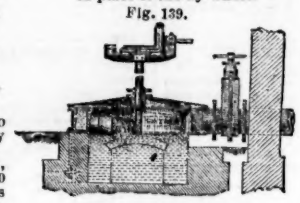
As supplied to the Admiralty Graving Docks, Malta, to lift from 200 to 2000 gallons per minute. The engine is of inverted vertical cylinder construction. The pump barrel and piston are of gun-metal, and the whole very strong and compact.

GWYNNE & CO.'S IMPROVED PLUNGER HAND PUMP.

A very neat and extremely compact arrangement; will work for years without getting out of order. These pumps are peculiarly adapted for mines, for which great numbers have been supplied in situations where no other pump could be applied for want of space. They are equally adapted for use as feed-pumps, by driving them with strap from a rigger in place of the fly-wheel.

Fig. 106.

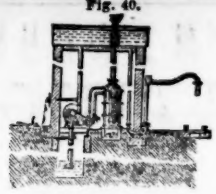
Fig. 139.



GWYNNE & CO.'S IMPROVED TURBINE WATER-WHEEL.

Compact, easy to erect, economical, simple, and perfectly adapted to all situations. Made of every power from 1 to 300 horse. These turbines are adapted for every class of work. Prices on receipt of particulars.

Fig. 40.



GWYNNE & CO.'S PATENT COMBINED STEAM-PUMP,
As Applied to Railway Stations.

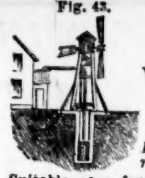
The vertical boiler supplies the engine with steam, the pump discharging the water lifted from the well into the tank above, whence it may be drawn as occasion requires, for feeding locomotives, washing the carriages, as a fire-engine, &c. Estimates given.

Fig. 142.

GWYNNE & CO.'S IMPROVED PORTABLE STEAM-ENGINE.

Light, simple in construction, durable, and economical, and very superior to "agricultural" engines. From 2½ to 30 horse power.

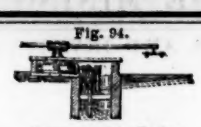
Fig. 43.



GWYNNE & CO.'S PATENTED WIND-POWER PUMPING MACHINERY.
Designed for Drainage and Irrigation Purposes

Suitable also for supplying the mansions of noblemen or gentlemen. Works continuously day and night without attention. Made from ⅛ to 20 horse power.

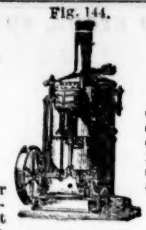
Fig. 94.



GWYNNE & CO.'S IMPROVED BULLOCK OR HORSE POWER PUMPING MACHINERY.

For situations where steam, water, or wind power are not available. Portable, easy to erect, and not liable to get out of order. From 1 to 6 horse power.

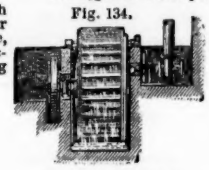
Fig. 144.



GWYNNE & CO.'S IMPROVED VERTICAL STEAM-ENGINE.

Occupies little space, compact, safe, and easy to work. Made from the very best selected materials. Of all powers from 2 to 20 horse.

Fig. 134.



GWYNNE & CO.'S PATENT WATER POWER PUMPING MACHINERY.

Extremely useful wherever water-power is available. The centrifugal pump is worked by gear from the water-wheel. Suitable for supplying country mansions with water. No expense when once fitted. Made of all powers.

Fig. 22.

GWYNNE AND CO.'S COMBINED STEAM-ENGINE AND PATENT CENTRIFUGAL PUMP.

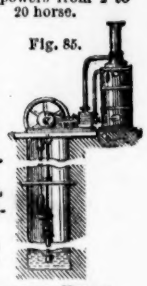
Small and powerful, low in cost, economical in work. No skilled labour required. Inexpensive foundations. First Prize Medal awarded at Paris last year for this arrangement.

Fig. 146.

GWYNNE & CO.'S IMPROVED HORIZONTAL HIGH-PRESSURE STEAM-ENGINE.

With or without expansion gear, for economical working. From 4 to 100 h. p.

Fig. 85.



GWYNNE & CO'S IMPROVED DEEP WELL PUMP.

Worked direct by steam-engine at the mouth of the well. This arrangement is invaluable in situations where, from peculiar circumstances, the centrifugal pump is inapplicable.

Large and fully Illustrated Catalogues sent on receipt of 12 postage stamps

TWELVE PRIZE MEDALS, taken at the Exhibitions of the Principal Cities of the World, TESTIFY TO THE GREAT EXCELLENCE OF THIS MACHINERY.

GWYNNE AND CO. have recently effected a considerable reduction in their prices, being determined to supply not only the BEST but the CHEAPEST PUMPING MACHINERY in the WORLD.

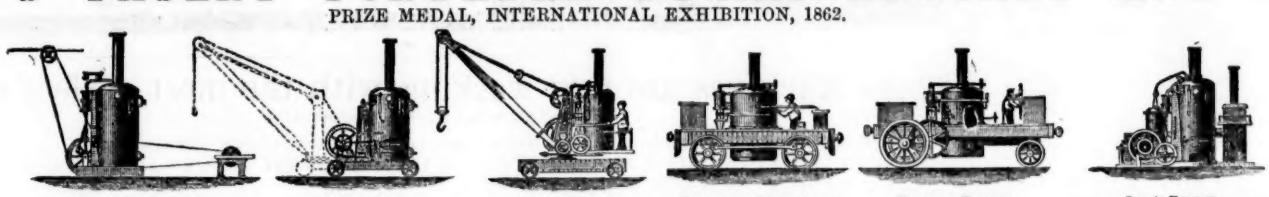
☞ TO PREVENT MISTAKES, PLEASE ADDRESS IN FULL—

GWYNNE AND CO.,

HYDRAULIC AND MECHANICAL ENGINEERS, ESSEX STREET WORKS, STRAND, LONDON, W.C.

CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



STATIONARY ENGINE, From 1 to 30-horse power. No building required.

PORTABLE HOIST, 1 to 30-horse power. With or without jib.

STEAM CRANE, 30 cwts. to 20 tons. For wharf or rail.

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ENGINES of each class KEPT IN STOCK FOR SALE or HIRE, and all GUARANTEED as to EFFICIENCY, MATERIALS, and WORKMANSHIP.

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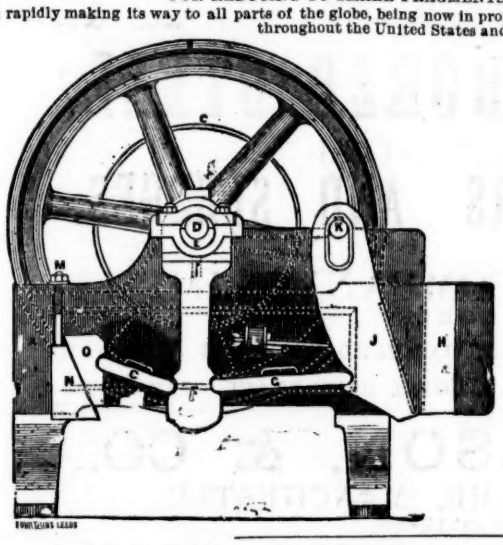
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, McADAM ROAD MAKERS, &c., &c.

BLAKE'S PATENT STONE BREAKER,

OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials:—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last twelve months, and Captain Morcom reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour.
For the Parys Mining Company, JAMES WILLIAMS.
H. R. Marsden, Esq.

Ecton Emery Works, Manchester.—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaws about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery.
H. R. Marsden, Esq. —— THOS. GOLDSWORTHY & SONS.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly,—The stone breaker does its work admirably, crushing the hardest stones and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes. for fine road metal, free from dust. Messrs. ORD and MADDISON,
Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton.
JOHN LANCASTER.

Ovoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

General Frémont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or $75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—

H. R. MARSDEN, SOHO FOUNDRY,

MEADOW LANE, LEEDS,
ONLY MAKER IN THE UNITED KINGDOM.

CAUTION!

BLAKE'S PATENT STONE BREAKER,

In Chancery.

BLAKE v. ARCHER, NOVEMBER 12, 1867.

His Honour the Vice-Chancellor WOOD having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON, of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiffs the costs of the Suit.

ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE'S, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

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H. R. MARSDEN, SOHO FOUNDRY, MEADOW LANE, LEEDS.

HEATON'S PATENT.

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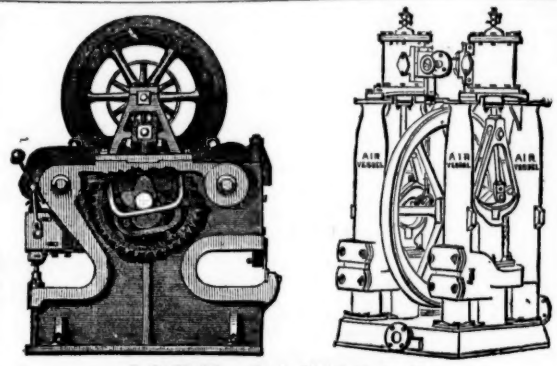
Are now making Cast-Steel suitable for Tools, Taps, Dies, Chisels, &c., &c., Shear Steel, and Iron of a very superior quality, by their direct process, under the superintendence of the Patentee.

The range of quality which this process secures renders the Steel and Iron suitable for almost every purpose to which these metals can be applied. Also, CAST-STEEL CASTINGS of all kinds from PATTERNS or DRAWINGS.



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MAKER OF
STEAM PUMPS, PORTABLE ENGINES, PLATE BENDING ROLLERS, BAR AND ANGLE IRON SHEARS, PUNCHING AND SHEARING MACHINES, PATENTEE OF THE DOUBLE CAM LEVER PUNCHING MACHINE, BAR SHEARS, AND RAIL PUNCHING MACHINES,

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By a special method of preparation, this leather is made solid, perfectly close in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of

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HEALTH AND MANLY VIGOUR.—A Medical Man, of Twenty Years' experience in the treatment of Nervous Debility, Spermatorrhœa, and other affections which are often acquired in early life, and unfit sufferers for marriage, and other social duties, has published a book giving the FULL BENEFIT of his LONG EXPERIENCE, GRATIS, with plain directions for the recovery of health and strength. A single copy sent to any address on receipt of one stamp.
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SELF-CURE OF NERVOUS AND PHYSICAL DEBILITY, Loss of Manhood, Impediments to Marriage, &c., SHOWING THE MEANS WHEREBY CERTAIN DISQUALIFICATIONS, which mar the happiness of Married Life, may be SPEEDILY REMOVED.
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WONDERFUL MEDICAL DISCOVERY,
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15 East Lovell, £10 7s 6d
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50 No. Treskerby, 12s 6d
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20 Chiverton Moor, £3.
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10 Chiverton, £3 8s. 6d.
5 Wt. Chiverton, £46¼
60 So. Condurrow, £1 7 9
20 West Great Work.
5 Great Laxey, £19 2s 6
10 Marke Valley.
15 Great Vor, £14 15s.
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50 Taquaril, 11s. 3d.
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50 Drake Walls.
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PERRAN WHEAL VYVYAN.—We beg to call the special attention of our clients to this interesting property, which we confidently recommend as an investment likely to prove a great success. We have a limited number of shares to dispose of at 10s. each, for which an early application should be made. Every informa- may be had at this office.

SPECIAL BUSINESS in Van, Van Consols, Tamar Valley, Holmbush and Kelly Bray United, and Royalton shares.

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SHAFT SINKING
THROUGH WATER-BEARING UPPER STRATA,
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CHAUDRON'S PATENT SYSTEM is successful, even in cases previously abandoned on account of overpowering volumes of water.

EXPENDITURE REDUCED BY EIGHTY PER CENT.
No leakages, no repairs. Agents wanted.

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MANUFACTURE RAILWAY WAGONS of EVERY DESCRIPTION, for HIRE and SALE, by immediate or deferred payments. They have also wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract.
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MANUFACTURERS of STEAM PUMPING and EVERY OTHER KIND of ENGINES, together with BOILERS, PUMP CASTINGS, and MINING TOOLS of every description, of the very best quality. Estimates given for the supply of any amount of machinery.
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NEW ZEALAND QUARTZ CRUSHING AND GOLD MINING COMPANY (LIMITED).

Notice is hereby hereby given that, as all the first issue of this company's shares, amounting to £25,000 has been placed, NO FURTHER SHARES CAN BE ALLOTTED.
JOSEPH SIMPSON, Secretary,
17, Pavement, Finsbury, E.C.

DEBENTURES TWENTY PER CENT. PER ANNUM,
SECURED BY MORTGAGE.

SAN PEDRO DEL MONTE SILVER MINING COMPANY (LIMITED).

DIRECTORS.
WALTER C. VENNING, Esq. (CHAIRMAN).
ALEXANDER CALDER, Esq. | PARKE PITTAR, Esq.
R. G. LANCASTER, Esq. | H. H. POTTS, Esq.
LUKE THOMAS, Esq.

The San Pedro del Monte Silver Mining Company (Limited), of Mexico, being very desirous of completing some most important works necessary for opening up their mines as speedily as possible, have determined to issue the remaining 500 debentures of £20 each, bearing 20 per cent. per annum interest.

These debentures form part of 750, secured by mortgage, under trustees, on all the property of the company in Mexico, consisting of silver mines and large reduction works, upon which the company have spent over £30,000, and were authorised to be raised by the shareholders at a special general meeting. They are issued for a period of five years, but with the right, on the part of the holders, to exchange them at any time, before the expiration of the time for repayment for preference shares of the same amount, and bearing the same rate of interest, and being further entitled to participate with the ordinary shares in all dividends exceeding that rate.

As from the late returns of rich silver ores from these mines, and which have been realised at the Mexican Mint, it is anticipated that not more than half of the above £10,000 will be required, only half of the amount of the said debentures, will be called up for a twelvemonth at least, and of this, £2 on application, £2 at three months, £2 at six months, £2 at nine months, and £2 at twelve months.

Of the 250 debentures already subscribed, three-fourths were taken by the directors and their friends, and a large amount of the present issue has already been applied for.

For forms of application and the latest reports, address the Secretary, Mr. J. A. ROBERTSON, 34, Cannon-street, London.

THE NEW PRINCE OF WALES SLATE COMPANY

(LIMITED).—By Acts 1862 and 1867.
Capital £50,000. in 10,000 shares of £5 each.
£1 per share to be paid on application, and £1 10s. on allotment.
Upwards of 5000 shares are already appropriated.
JOHN FRANCIS, Esq., Brynderwen, Bangor,—CHAIRMAN.
BANKERS—METROPOLITAN BANK (Limited), Cornhill.
SECRETARY AND GENERAL MANAGER—THOMAS HARVEY, Esq.
OFFICES.
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The directors are now prepared to receive applications for 2000 of the unappropriated shares on the terms above stated.

This is in no respect a speculation, but an established business, and a safe and profitable investment for capital. It may be confidently affirmed that no slate quarry was ever offered to the public under such favourable circumstances, and the directors invite those who are not already aware of its high position to investigate its merits.

The slate is known throughout the kingdom, and is distinguished for every excellence of colour, purity, lightness, and strength, and is unsurpassed in any respect by any other slate in the Principality. The quarry has already produced several thousand pounds worth of slate, is in full working order, and is amply provided with every requisite in plant and machinery for carrying on the most extensive business. Slabs, of which there are thousands now on the quarry, can be supplied to any extent. The buildings and sawing and planing machinery are in perfect order, and of the best and most improved description.

Less than £2000 will now complete the incline, and bring the quarry into a large monthly profit. The local manager states that slates and slabs of the value of £560 per month can be immediately produced, and the production can be rapidly extended, as the quarry is yet only in its infancy.

Eight galleries, each 18 yards in depth, have been opened, and can be worked to an extreme depth of 300 yards without any lifting power whatever. The tip for rubbish is unlimited—in fact, it is not too much to say that, considered in all its aspects, no such quarry has been opened in Wales during the present century. There is abundance of water power for sawing and planing. The slates have been shipped, or sent by rail from Carnarvon to all parts.

Two of the directors represent the largest quarries in Wales, and, together with the general manager, hold between them nearly 2000 shares in this quarry. All rents and royalties have been purchased by the company. The property is upwards of a mile square, and is held on a lease for 40 years, granted by G. A. Huddart, Esq. By agreement, dated 14th September, 1868, between F. B. Smart and H. L. Hammack, and the company, paid-up shares are to be given as a full consideration for the purchase of the entire property.

There are barracks, provided with beds, stoves, and every requisite for the accommodation of 100 men.

Applications for forms, prospectuses, and shares (the latter accompanied by a cheque for the deposit) may be addressed to the Secretary, at the offices, St. Clement's House, St. Clement's-lane, London, E.C.

The 2000 shares will be allotted according to priority of application.

There are also, in a distant part of the property, other large beds of equally fine slate rock, which can be leased or sold. The sum of £5000, and a royalty of 1-15th, are also receivable by the company for a copper mine lately sold by hem.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500	Alderley Edge, c, Cheshire*	10 0 0	—		10 6 8	0 5 0	Jan. 1869
200	Botallack, t, c, St. Just	91 5 0	255	270	544 5 0	16 0 0	May 1869
4000	Brookwood, c, Buckfastleigh	1 11 0	—		0 12 6	0 2 6	Aug. 1868
1000	Bronfloyd, l, Cardigan*	12 0 0	23		11 9 0	0 12 0	April 1869
5094	Bwlch Consols, s-l, Cardigan	4 0 0	—		0 5 0	0 5 0	June 1868
6400	Cashwell, l, Cumberland*	2 10 0	—		0 3 0	0 1 6	Aug. 1868
916	Cargoll, s-l, Newlyn	15 5 7	—		16 5 0	0 10 0	April 1869
1280	Chanticleer, l, Flint	0 7 8	—		0 1 0	0 0 6	Nov. 1868
2450	Cook's Kitchen, c, Illogan‡	19 14 9	14	13 13½	2 4 6	0 7 6	April 1869
509	Creegbrawse and Penkevil, t	—	—		2 5 0	1 5 0	April 1868
867	Cwm Erfin, l, Cardiganshire*	7 10 0	—		30 3 0	0 10 0	April 1869
128	Cwmystwith, l, Cardiganshire	60 0 0	—		385 10 0	2 0 0	Feb. 1869
280	Derwent Mines, s-l, Durham	300 0 0	—		177 0 0	2 10 0	July 1868
1024	Devon Gt. Consols, c, Tavistock†	1 0 0	160	150 160	1132 0 0	4 0 0	May 1869
656	Ding Dong, t, Gulval‡	49 14 6	—	22 24	3 10 0	1 10 0	May 1869
1432	Dolcoath, c, t, Camborne	32 4 6	130	125 130	224 2 6	3 0 0	June 1869
6144	East Caradon, c, St. Cleer†	2 14 6	7	7½ 8	14 11 6	0 2 0	July 1867
300	East Darren, l, Cardiganshire	32 0 0	—		166 10 0	2 0 0	Mar. 1869
6400	East Pool, t, c, Pool, Illogan	0 9 9	8	7 8	9 3 0	0 3 3	May 1869
1906	East Wheal Lovell, t, Wendron	3 9 0	11	10½ 11	4 16 0	0 5 0	May 1869
2800	Foxdale, l, Isle of Man*	25 0 0	—		73 0 0	0 10 0	April 1869
5000	Frank Mills, l, Christow	3 18 6	4⅛	3⅞ 4⅛	3 13 6	0 4 0	April 1869
3950	Gawton, c, Tavistock	3 10 6	—		0 3 0	0 3 0	Jan. 1868
15000	Great Laxey, l, Isle of Man*	4 0 0	19¼	18½ 19½	10 15 0	0 10 0	June 1869
3000	Great Northern Manganese*	5 0 0	—		—	5 p.ct.	Feb. 1869
5908	Great Wheal Vor, t, c, Helston†	40 0 0	17	14½ 15½	14 11 0	0 10 0	June 1869
1024	Herodsfoot, l, near Liskeard†	8 10 0	46	44 46	49 10 0	1 10 0	Feb. 1869
12000	Holmbush and Kelly Bray, c*	1 0 0	4¾	4 4½	0 1 0	0 1 0	May 1869
165	Levant, c, t, St. Just	10 8 1	—		1099 0 0	4 0 0	Jan. 1869
400	Lisburne, l, Cardiganshire	18 15 0	—		515 0 0	3 0 0	Mar. 1869
3000	Maes-y-Safn, l, Flint*	20 0 0	29		4 0 0	0 5 0	Oct. 1868
9000	Marke Valley, c, Caradon	4 10 6	8½	8¼ 8½	5 4 0	0 5 0	April 1869
3000	Minera Boundary, l, Wrexham*	1 0 0	—		0 13 0	0 3 0	Mar. 1866
1800	Minera Mining Co. l, Wrexham*	25 0 0	170		253 13 6	5 0 0	May 1869
20000	Mining Co. of Ireland, c, l, cl.	7 0 0	9	9¾	—	9 p.ct.	July 1868
40000	Mwyndy Iron Ore*†	3 7 0	1½		0 11 6	0 3 0	Feb. 1869
2000	North Levant, t, c, St. Just	10 12 0	11½		0 5 0	0 5 0	Mar. 1869
200	Parys Mines, c, Anglesey*	50 0 0	—		162 10 0	2 10 0	Aug. 1869
5000	Penhalls, t, St. Agnes	3 0 0	—		0 6 6	0 4 0	April 1869
12800	Prince of Wales, c, Calstock	0 12 6	1¾	1¼	0 8 6	0 1 0	Nov. 1868
1120	Providence, t, Uny Lelant†	10 6 7	37	35 37	88 2 6	1 10 0	Mar. 1869
512	South Caradon, c, St. Cleer†	1 5 0	—		617 10 0	5 0 0	May 1869
6000	South Darren, l, Cardigan*	3 6 6	2		0 16 0	0 1 6	May 1869
937	South Wh. Crofty, c, Illogan	24 10 10	—		2 0 0	0 10 0	May 1869
496	So. Wh. Frances, c, Illog.†‡	18 18 9	15	14 16	374 13 6	1 0 0	Mar. 1868
940	St. Ives Consols, t, St. Ives‡	10 15 0	20	16½ 17½	0 10 0	0 10 0	May 1869
508	Summer Hill, l, Mold	3 18 6	—		2 5 6	0 5 0	Feb. 1868
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	18	16 17	21 1 0	0 10 0	May 1869
2000	Trumpet Cons., t, Helston	11 10 0	23	21 21½	8 14 0	0 14 0	April 1869
12000	Van, l, Llanidloes*	4 5 0	37½	37½ 38½	0 5 0	0 5 0	June 1869
3000	W. Chiverton, l, Perranzabuloe†	10 0 0	47	46 47	35 7 6	2 0 0	May 1869
242	Spearne Moor, t, St. Just	6 2 0	21	20 21	1 0 0	1 0 0	June 1869
512	West Wheal Frances, t, Illogan	106 15 0	54	51 53	1 10 0	1 10 0	April 1869
400	W. Wheal Seton, c, Camborne†	47 0 0	185	170 180	633 0 0	5 0 0	June 1869
512	Wheal Basset, c, Illogan†	5 2 6	—		632 10 0	1 0 0	June 1868
1024	Wheal Friendship, c, Tavistock	20 0 0	—		300 10 0	0 10 0	Nov. 1866
512	Wheal Jane, s-l, Kea	10 15 0	45	45	24 10 0	1 10 0	May 1869
4295	Wheal Kitty, t, St. Agnes	5 4 6	5½	4¾ 5¼	3 18 0	0 5 0	May 1869
1024	Wheal Mary Ann, l, Menheniot†	8 0 0	15	14 15	68 10 0	0 15 0	June 1869
1000	Wh. Mary Hutchins, Plymp., t	2 12 6	—		0 5 0	0 5 0	May 1869
80	Wheal Owles, t, St. Just‡	70 0 0	—		415 13 0	12 10 0	May 1869
396	Wheal Seton, t, c, Camborne	58 10 0	50	35 40	254 15 0	2 0 0	Feb. 1868
3000	Whitewell Lead, Clitheroe*	0 5 0	—		1 0 0	0 10 0	Dec. 1867
17000	Wicklow, c, i, Wicklow	2 10 0	9¾	9¾	49 6 0	0 5 0	Mar. 1869

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
35000	Alamillos, l, Spain*†	2 0 0	1¾	1¼ 1¾	0 6 6	0 2 0	Mar. 1869
20000	Australian, c, South Australia†‡	7 7 6	—		0 1 6	0 0 6	Aug. 1868
15000	Cape Copper Mining*†	7 0 0	—	13⅜	3 17 6	0 15 0	Nov. 1868
30000	Central American Association*†	1 10 0	—		—	—	
10000	Copiapo Mining Co., Chili†‡	16 10 0	3	1½ 2½	0 4 0	0 4 0	April 1869
76162	Don Pedro North del Rey*†‡	0 14 0	4⅞	4⅜ 4⅝	1 3 3	0 3 0	May 1869
70000	English and Australian, c‡	2 10 0	—			0 0 9	Feb. 1869
25000	Fortuna, l, Spain*†	2 0 0	—	2 2½	1 14 10	0 3 0	Mar. 1869
20000	Gen. Mining Assoc., Nova Scotia†	20 0 0	—		23 10 0	0 15 0	June 1867
10000	Gonnesa, l, Sardinia*	5 0 0	—		10 per cent.		Aug. 1868
68000	Kapunda Mining Co., Austra†‡	1 0 0	⅜	⅛ ⅜	0 1 10	0 0 6	Nov. 1868
15000	Linares, l, Spain*†	3 0 0	3	2½ 3	11 18 4	0 3 4	Mar. 1869
50000	Panulcillo, c, Chili*†	3 0 0	¾	¼ ¾	10 per cent.		Yearly.
6000	Peel River Land and Mineral*†	100 0 0	—		—	—	
10000	Pontgibaud, s-l, France†	20 0 0	—		5 6 2	0 19 7	Dec. 1868
100000	Port Phillip, g, Clunes*†	1 0 0	1¾	1⅝ 1¾	1 3 6	0 1 6	Jan. 1869
120000	Scottish Australian Min. Co.†	1 0 0	1	1	10 per cent.		Nov. 1868
11000	St. John del Rey, Brazil*†	15 0 0	15½	15 15½	81 10 0	4 5 0	Dec. 1867
4000	Swedish Sulphur Ore*	2 10 0	—		7½ per cent.		Dec. 1868
13500	Vancouver Coal Mining*†‡	6 0 0	8	7½ 8	2 14 6	0 12 0	May 1869
50000	Victoria (London) [25000 £1 pd., 25000 12s. 6d. pd.]				0 9 7	0 0 7	July 1868
40000	West Canada Mining Co.*	1 0 0	—		0 19 6	0 2 6	May 1866

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
50000	Anglo-Argentine, g, s, Argentine Republic*	1 0 0	1⅛	1 1¼	
100000	Anglo-Brazilian, g*†	0 11 0	½	⅛ ⅝	Nov. 1866
12500	Anglo-Italian, g*†	0 15 0	1	¾ 1	Jan. 1868
20000	Australian United, g	1 0 0	—		Mar. 1868
2464	Burra Burra, c, South Australia‡	5 0 0	30		
20000	Capula, s, Mexico*†	2 0 0	—		Jan. 1869
30000	Chontales, g, s, Nicaragua*†	5 0 0	1	1¼ 1½	Mar. 1868
12000	Cobre Copper Company, c, Cuba†‡*	45 10 0	—		Jan. 1868
15000	El Chico Silver Mining and Reduction Company*	5 0 0	—		Nov. 1866
40000	Fortune Copper Mining Co. of Western Australia	2 0 0	1¾		Fully pd.
50000	Frontino and Bolivia, g, New Granada*†	1 17 0	1⅜	1¼	May 1868
150000	General Brazilian*	0 10 0	¾	⅞ 1	Feb. 1869
50000	Javali, g, Nicaragua	2 0 0	—		Jan. 1869
7927	Lusitanian (Portugal)†‡	2 15 0	—		Dec. 1866
83640	Mariquita, g, s, New Granada	1 0 0	—		Feb. 1868
12500	Nerbudda Coal and Iron, India*†	6 10 0	—		Dec. 1867
51000	New Quebrada, c, Venezuela*†	4 4 0	—		
80000	Pestarena United, g, Italy*†	2 17 6	1½	1⅛ 1⅜	
10178	Rhenish Consolidated, l [6000 £5 pd., 4178 £2 10s. pd.]	—	—		May 1866
100000	Rossa Grande, g, Brazil*†	0 14 0	1⅜	1⅛ 1⅜	June 1867
15000	San Pedro del Monte, s, Mexico*	4 0 0	—		Sept. 1866
10000	San Roque, l, Spain	5 0 0	—		Fully pd.
50000	Sao Vicente, Brazil*†	0 4 0	½		Oct. 1868
100000	Taquaril, g, Brazil*	0 7 6	⅝	½ ⅝	Oct. 1868
43174	United Mexican, s, Mexico†‡*	28 5 2	2	1¾ 2	May 1868
30000	Val Antigoria, g, Italy*	1 2 6	—		
6000	Val Sassam, s, c, l, Italy*†	8 0 0	—		Aug. 1868
45000	Victor Emanuel, c, Italy*	1 0 0	—		Fully pd.
80000	Worthing, c, South Australia*†	1 0 0	—		Fully pd.
75000	Yorke Peninsula, South Australia	1 0 0	¼	⅛ ¼	Fully pd.
45000	Yudanamutana, c, South Australia*†‡	3 0 0	1¾	1½ 1¾	Fully pd.

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
12000	Brynpostig, Montgomery, l*	1 0 0	2⅜		
3000	Carn Brea, c, t, Illogan‡	30 0 0	19	12 14	June 1868
3000	Chiverton, l, Perranzabuloe	11 0 0	3¼	3⅜ 3⅝	Nov. 1868
3000	Chiverton Moor, l, Perranzabuloe	7 0 6	3⅞	2¾ 3¼	Feb. 1869
3880	Clifford Amalgamated, c, Gwennap‡	40 17 6	—		Oct. 1868
12800	Drake Walls, t, Calstock‡	2 10 0	⅞	¾ 1	Jan. 1868
512	East Basset, c, Redruth†‡	37 0 0	7	5 7	Nov. 1868
6000	East Carn Brea, c, Redruth‡	4 18 0	½		April 1869
6000	East Grenville, c, Camborne	4 5 0	4½	4⅛ 4⅜	May 1869
6144	Gonamena, c, St. Cleer	7 16 3	—		June 1869
5000	Great North Downs, c, Redruth	6 13 0	2¼	2 2¼	Feb. 1867
12500	Great North Laxey (Isle of Man)*	1 0 0	1		
5143	Great South Tolgus, c, Redruth	1 16 6	1¼		June 1869
1798	Great Wheal Fortune, t, Breage	31 7 4	—		Mar. 1868
6000	Hingston Down, c, Calstock†	5 12 0	—		Dec. 1868
400	New Wheal Seton, c, Camborne	65 5 0	—	55 60	April 1869
3457	North Downs, c, Redruth	5 12 10	—		Mar. 1869
695	North Roskear, c, Camborne	61 19 0	6	4 6	Jan. 1869
5936	North Treskerby, c, St. Agnes	1 13 10	⅝	½ ¾	Feb. 1869
12000	Ohio Crown Lead, Isle of Man	12 0 0	1½	1 1⅛	
1024	Rose and Chiverton United, l, Newlyn	7 0 0	—		May 1869
5869	Rosewall Hill & Ransom, t‡	4 0 0	1¾	1⅜ 1⅛	
6123	South Condurrow, t, c, Camborne	4 15 6	1½	1⅜ 1½	June 1869
1000	South Merllyn, l, Flint	1 0 0	—		
920	Stray Park, c, t, Camborne†‡	46 19 8	8	6½ 7	April 1869
12000	Van Consols, Llanidloes, l*	2 10 0	3½	2¾ 3¼	
20000	Victoria (South Devon), c, Ashburton*	0 10 0	1		May 1869
6000	West Basset, c, Illogan†‡	2 0 0	1⅜	1⅜ 1⅝	May 1868
1024	West Caradon, c, St. Cleer‡‡	27 0 0	4	4 5	Mar. 1869
5000	West Godolphin, t, c, Breage	0 1 0	—		
2582	West Great Work, t, Breage	5 11 0	4		June 1866
6000	Wheal Agar, c, Illogan	7 18 0	—		Mar. 1889
512	Wheal Buller, c, Redruth†‡	30 10 0	14	12 14	May 1869
5724	Wheal Grenville, c, Camborne†	10 10 0	3	2⅝ 2¾	Dec. 1868
1040	Wheal Trelawny, s-l, Liskeard†	10 17 0	7	7 8	Mar. 1869
4096	Wheal Uny, t, c, Redruth	10 14 6	4	3¼ 3¾	Oct. 1868

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.
4000	Ballacorkish, I. of Man, l, c*	4 10 0	—	
4000	Bedford Consols, c, Tavistock	3 1 6	—	
4000	Bedford United, c, Tavist.*	3 1 8	1¾	1 1½
5000	Blue Hills, t, c, St. Agnes	0 5 0	—	
1248	Boscaswell, t, c, St. Just	7 6 0	—	
5000	Bottle Hill, t, Plympton	1 14 6	—	
5000	Bryn Gwlog, l, Flint	0 18 0	—	
1200	Bryn Gwyn, l, Mold*‡	9 0 0	—	
7500	Brynystwith, l*	2 0 0	—	
1000	Budnick Consols, t	2 14 0	4¼	
6000	Bwadrain Cons., s-l, Cardig.	3 5 0	—	
30000	Caldbeck Fells, l, Cumberld.*	1 15 0	⅞	
11000	Cape Cornwall, t, c* [8000 £2 10s. pd., 3000 25s. pd.]			
5000	Capel Banhaglog, l, Mont.*	2 0 0	2⅜	
914	Caradon Consols, c, St. Cleer	33 6 0	—	
6000	Carn Camborne, c, Cambrn.	2 12 0	—	
3000	Chiverton Valley, l, Perranz.	2 5 0	—	⅞
2048	Colquite & Callington Un., c	1 11 0	—	
256	Condurrow, c, t, Camborne‡	76 10 0	—	
50000	Connorree, c, sul, Wicklow*	1 0 0	⅛	⅛
983	Copper Hill, c, Redruth‡	12 10 0	—	
1000	Cornwall Hematite*	7 10 0	—	
1055	Craddock Moor, c, St. Cleer‡	14 18 0	—	
6000	Cuddra, t, St. Austell	5 10 0	—	
300	Cwm Darren, Cardigan*	—	—	
1000	Deep Level, s-l, Holywell	30 0 0	—	
4000	Devon & Cornwall United	5 18 0	—	
5000	Dolwen, l, Cardiganshire	0 10 0	1⅛	
1000	East Basset and Grylls, t	3 5 0	—	
4465	East Bottle Hill, Plymp., t, c	0 14 0	—	¼ ½
4000	East Chiverton, l, Perranz.	3 7 9	1½	1⅜ 1⅝
4000	E. Gunnislake & S. Bed. c.	11 4 0	—	
6000	East Laxey, l, Isle of Man	3 0 0	—	
4096	E. New Wh. Lovell, t, Wend.	0 5 0	—	
3640	East Providence, t, Lelant	7 3 3	—	
5000	E. Rosewarne, c, t, Gwinear	3 1 6	—	
6000	East Snaefell, l, I. of Man*	3 0 0	—	
5610	East Seton, c, Camborne	0 16 6	—	
2000	East Trumpet, c, t	1 15 0	—	
6000	East Wheal Reeth	0 2 0	1¼	
6000	Ebury Lead Min. Co., Flint*	2 10 0	—	
5000	Exmouth, s-l, Christow	0 3 6	1½	
6000	Gen. Min. Co. for Ireland, c	5 10 0	—	
40000	Glasgow Caradon, c* [30,000 £1 p., 10,000 15s. p.]			
5700	Goginan, Cardigan, l	12 10 0	—	
2866	Great Caradon, c, St. Ive	4 5 9	⅝	
6000	Great N. Tolgus, c, Illogan	1 0 0	—	
4800	Gt. Retallack, s-l, b, Perran.	2 19 6	—	
15000	Great Rhosesmor, l	5 0 0	—	
4096	Great Royalton, t	0 7 6	1⅛	1 1⅛
6000	Gt. S. Chiverton, s-l, Perranz	2 0 0	2¼	
6000	Great Western, t	2 0 0	—	2 2¼
3313	Gt. Wh. Baddern, t, Devoran	7 17 6	—	
119	Great Work, t, Germoe	100 0 0	—	
1024	Gunnislake (Clitters'), t, c	4 19 0	—	
6000	Gwydyr Park, l, Llanrwst	1 12 0	—	
5000	Ironmasters' Company*	10 0 0	12	
10000	Killaloe, s, Tipperary	1 0 0	—	¾ ⅞
1019	Leeds and St. Aubyn, t, c	19 13 4	—	
1000	Llywernog, l, Cardiganshire	13 0 0	—	
5120	Lovell Consols, Wendron, t	0 6 0	1⅛	
6000	Maudlin, c, Lostwithiel	4 7 0	—	
6000	Mid-Wales, l, Llanidloes*	2 10 0	3¼	
4662	Minera Union, l [2500 £4 p., 2162 £2 7s. 6d. p.]			
640	Mount Pleasant, l, Mold	4 0 0	—	
1024	Nangiles, t, c, Kea	34 12 0	12½	10 12½
6000	New Brynpostig, l, Llanid.	1 10 0	1⅝	
1500	New Chiverton, l, Perranz.	1 4 6	—	
6000	New Clifford, c, Gwennap*	3 5 0	—	
6250	N. Crow Hill, l, St. Stephen	3 11 0	—	
6514	New E. Russell, c, Tavistock	0 12 6	—	
20000	New Gt. Cons., c, Tavistock*	1 0 0	—	
6400	New Pembroke, St. Blaz. t, c	1 17 0	—	
3425	New Treleigh	6 10 0	—	
6000	New Westminster, l*	6 10 0	—	4 4¼
4096	New Wh. Lovell, t, Wendron	1 19 6	1⅞	1⅝ 1¾
4000	N. Wh. Prosper, t, St. Hilary	0 2 6	1¼	
2000	N. Wh. Towan, c, t, Wendron	1 10 0	—	
5000	No. Dolcoath, c, Camborne	4 3 0	—	
1361	No. Grambler, c, Redruth	9 3 9	—	
6000	North Jane, t, s-l, Kenwyn	3 7 6	⅝	⅜ ⅝
4000	No. Phoenix, c, Linkinhorne	4 11 0	—	
3240	North Pool, c, Illogan	6 13 6	⅝	½ ⅝
1000	North Retallack	2 0 0	2	
6000	North Wheal Basset, c, t†	5 0 0	—	
3000	N. Wh. Chiverton, l, Perran.	5 0 0	—	
5610	N. Wh. Crofty, c, Illogan†	3 11 3	¾	⅝ ¾
12288	Okel Tor, c, Calstock	2 7 4	—	
8000	Old Gunnislake, c, Calstock	3 9 6	—	
6400	Par Consols, c, St. Blazey†‡	2 14 6	—	
5754	Pedn-an-drea, t, Redruth	8 1 6	—	
	Pendarves United	—	34	35 37
5000	Pendeen Consols, c, St. Just	7 17 0	—	
4000	Penhale United, s-l*	4 10 0	—	
2177	Penhale Wh. Vor, t, c, Breage	7 2 6	—	
6000	Perran Wheal Vyvyan	0 10 0	¾	½ ⅝
3000	Pickard's Down, s-l, Brnstpl.	0 1 6	¼	
1772	Polberro, t, St. Agnes	15 0 0	—	
2000	Polbreen	3 0 0	—	
12800	Princess of Wales, c, t	0 7 0	¼	¼ ⅜
6000	Prosper U., t, c, St. Hilary	9 14 0	—	
4620	Redmoor, c, t, Callington	2 1 0	—	
6000	Reinnie Laxey, l, I. of Man*	4 10 0	—	
6000	Roaring Water, c*	2 15 0	—	
2000	Rosecliff and Tolcarne, l*	9 15 0	—	
10000	Royalton, t, St. Columb	1 1 0	1⅛	1 1⅛
20500	Snaefell, l, Isle of Man*	1 0 0	—	
512	South Basset, c, Gwennap	30 10 0	—	
5000	South Carn Brea, c, t	0 5 0	⅜	⅜ ½
3000	So. Chiverton, s, l, Perranz.	6 2 6	—	
5000	So. Gt. Work, t, c, St. Hilary	0 2 6	—	
6000	South Grenville, c	0 2 0	—	
3395	So. Herodsfoot, l, Liskeard	4 13 0	1⅛	
400	So. Wh. Seton, c, Camborne	90 13 0	—	
673	St. Ives Wh. Allen, t, St. Ives	18 18 7	—	
8771	St. Just Amalg., t,* [6000 £3 10s. pd., 2771 £2 5s. pd.]			
300	Steeple Aston Iron Ore Co.	10 0 0	—	
7000	Stiperstones, l, Salop*	6 0 0	—	
6000	Tamar Valley, s-l, Beeralston	0 13 0	—	
3500	Tin Hill, t, St. Austell	1 12 0	—	
6000	Tin Valley, St. Neot	1 0 0	—	
548	Trelyon Consols, t, St. Ives	16 10 0	—	
501	Tresavean and Trethurrup	16 11 0	5⅛	
4096	Trewetha, s-l, Menheniot	10 19 6	—	
1943	Treworlis, t, Wendron	11 15 4	—	
70	Tygwyn, s-l, Cardigan	25 0 0	—	
1000	Vaughan, s-l, Cardigan	1 0 0	—	
7664	Vigra and Clogau, c, Dolg.*‡	5 0 0	—	
1000	West Cwm Erfin, s-l	0 10 0	—	
256	West Damsel, c, Gwennap	38 10 0	—	
12800	W. Drake Walls, c, Calstock	0 8 6	⅜	¼ ⅜
12000	W. Maria & Fortes., c, Lam.	3 13 0	—	
12800	West Prince of Wales, c	0 11 0	—	
838	West Rose Down, c, Linking.	23 0 0	—	30 35
3535	West St. Ives, t, c, St. Ives	0 6 0	—	
512	West Tolgus, c, Redruth	62 0 0	35	
5000	West Wh. Kitty, t, St. Agnes	3 12 0	—	
4096	W. Wh. Tremayne, St. Erth	0 14 0	—	
741	Wheal Basset and Grylls, t	7 18 6	—	7 8
5368	Wheal Crebor, c, Tavistock	2 8 6	⅝	
811	Wh. Emily Henrietta, c, Illo.	20 15 0	—	
4000	Wh. Emma, c, Buckfastleigh	3 19 0	—	
1560	Wheal Falmouth & Sperries	9 1 0	—	
3700	Wheal Ida, s-l, St. Ive	1 9 6	⅜	⅛ ⅜
1024	Wh. Kitty, t, Uny Lelant†	3 10 6	—	
896	Wh. Margaret, t, Uny Le.‡	13 17 6	8	9 11
728	Wheal Margery, St. Ives, t, c	27 4 0	—	
6000	Wheal Mary Florence, c*	2 10 0	—	
2000	Wheal Rose, c, Scorrier	1 10 0	—	
4663	Wheal Sparnon, c	3 17 0	—	
1920	Wh. Trannack, c, Sithney	1 13 3	—	
1200	Wheal Trevenna, t, c*	10 0 0	—	

IRON AND COAL COMPANIES.

		Paid.	Last Pr.	Bus. done.
100	Bolckow, Vaughan, and Co.*	30 0 0	—	39½ 39¾
100	Brown, John, and Co.*	70 0 0	—	44 46
100	Charles Cammell and Co.*	80 0 0	—	49 50
10	Consett Iron Company*	7 10 0	—	8½ 8⅝
32	Ebbw Vale Iron Co.*	27 10 0	—	15½ 16½
15	Hopkins, Gilkes, and Co.*	10 0 0	—	8 9
12½	Mersey Steel and Iron Co.*	11 10 0	—	3 3⅛
10	Midland Iron Company*	5 0 0	—	12 12⅛
100	Parkgate Iron Company*	57 10 0	—	22½ 25
20	Patent Shaft & Axletree Co.*	10 0 0	—	15 15⅛
50	Rhymney Iron Company	50 0 0	—	24 26
15	Ditto, New	15 0 0	—	6½ 7
100	Sheepbridge Coal & Iron Co.*	50 0 0	—	28½ 29½
100	Staveley Coal and Iron Co.*	60 0 0	—	90½ 91
100	Thames Iron Company*	100 0 0	—	30

b, blende; cl, coal; c, copper; g, gold; l, lead; s, silver; sl, slate; sl, silver-lead; t, tin; z, zinc.

*** Companies marked thus * have been incorporated with Limited Liability; those marked † have been admitted on the Stock Exchange, those marked thus ‡ have paid Dividends.

London: Printed by RICHARD MIDDLETON and published by HENRY ENGLISH (the proprietors), at their office, 26, FLEET STREET, E.C., where all communications are requested to be addressed.—June 26, 1869.